# Algebra II Lesson \#4 Unit 4 Class Worksheet \#4 For Worksheet \#4 

Algebra II Applying Systems of Linear Inequalities

## Algebra II Applying Systems of Linear Inequalities

In this unit, you have learned how to graph systems of linear inequalities.

## Algebra II Applying Systems of Linear Inequalities

In this unit, you have learned how to graph systems of linear inequalities. In each case the graph of the 'solution set' was a convex polygon.

## Algebra II Applying Systems of Linear Inequalities

In this unit, you have learned how to graph systems of linear inequalities. In each case the graph of the 'solution set' was a convex polygon. In this lesson, we will explore applications of systems of linear inequalities with two variables.

## Algebra II Applying Systems of Linear Inequalities

In this unit, you have learned how to graph systems of linear inequalities. In each case the graph of the 'solution set' was a convex polygon. In this lesson, we will explore applications of systems of linear inequalities with two variables. Consider the following example.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds,

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\mathbf{\$ 3 0 0 0}$ available for seed costs.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

Let $\mathbf{x}$ represent the number of acres of barley they plant,

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

Let x represent the number of acres of barley they plant, and let $y$ represent the number of acres of wheat they plant.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

Let x represent the number of acres of barley they plant, and let $y$ represent the number of acres of wheat they plant.

Number
of Acres
Barley $\quad \mathbf{x}$
Wheat y

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres |
| :--- | :---: |
| Barley | $\mathbf{x}$ |
| Wheat | $\mathbf{y}$ |

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres |
| :--- | :---: |
| Barley | $\mathbf{x}$ |
| Wheat | $\mathbf{y}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres |
| :--- | :---: |
| Barley | $\mathbf{x}$ |
| Wheat | $\mathbf{y}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres |
| :---: | :---: |
| Barley | $\mathbf{x}$ |
| Wheat | $\mathbf{y}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?
$\left.\begin{array}{|cc|}\hline \text { Number } \\ \text { of Acres }\end{array}\right\}$

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres |
| :--- | :---: |
| Barley | $\mathbf{x}$ |
| Wheat | $\mathbf{y}$ |
|  |  |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ |  |
| Wheat | $\mathbf{y}$ |  |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ |  |
| Wheat | $\mathbf{y}$ |  |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have $\mathbf{1 2 0}$ acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ |  |
| Wheat | $\mathbf{y}$ |  |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ |  |
| Wheat | $\mathbf{y}$ |  |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres |
| :---: | :---: |
| Barley | $\mathbf{x}$ |$\quad \mathbf{x} \leq \mathbf{1 0 0}$

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | $x \leq \mathbf{1 0 0}$ |
| :--- | :---: | :--- |
| Barley | $\mathbf{x}$ | $\mathbf{y} \leq$ |
| Wheat | $\mathbf{y}$ |  |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of $\mathbf{8 0}$ acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number of Acres | $\mathrm{x} \leq 100$ |
| :---: | :---: | :---: |
| Barley | X | $\mathrm{y} \leq 80$ |
| Wheat | y |  |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ |  |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ |  |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

| Number <br> of Acres | $\mathbf{x} \leq \mathbf{1 0 0}$ |  |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ |  |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres |  |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ |  |
| Wheat | $\mathbf{y}$ | $\mathbf{x} \leq \mathbf{1 0 0}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

| $\substack{\text { Number } \\ \text { of Acres }}$ | $\mathbf{x} \leq \mathbf{1 0 0}$ |  |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{x}+$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{x}+\mathbf{y}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

| Number <br> of Acres | $\mathbf{x} \leq \mathbf{1 0 0}$ |  |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{x}+\mathbf{y} \leq$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

| Number <br> of Acres | $\mathbf{x} \leq \mathbf{1 0 0}$ |  |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ |  | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ |  | $x+y \leq \mathbf{1 2 0}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ |  | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ |  | $x+y \leq \mathbf{1 2 0}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ |  | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ |  | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |

20x
First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |
|  |  |  | $\mathbf{2 0 x}+$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |
|  |  |  | $\mathbf{2 0 x}+\mathbf{3 0 y}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost $(\$)$ | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |
|  |  |  | $\mathbf{2 0 x}+\mathbf{3 0 y} \leq$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost $(\$)$ | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |
|  |  |  | $\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0}$ |

First, we will focus on the 'limiting factors'.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost $(\$)$ | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |
|  |  |  | $\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0}$ |

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost $(\$)$ | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |

Clearly, $x$ and $y$ represent
$20 x+30 y \leq 3000$ non-negative quantities.

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number of Acres | $\begin{gathered} \text { Seed } \\ \text { Cost (\$) } \end{gathered}$ | $\mathbf{x} \leq$ |
| :---: | :---: | :---: | :---: |
| Barley | x | 20x | $\mathrm{y} \leq 80$ |
| Wheat | y | 30y | $\mathrm{x}+\mathrm{y} \leq 120$ |
| Clearly, $x$ and $y$ representnon-negative quantities.$\begin{gathered} \mathbf{2 0 x}+\mathbf{3 0} \mathrm{y} \leq \mathbf{3 0 0 0} \\ \mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0} \end{gathered}$ |  |  |  |

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost $(\$)$ | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |
|  |  |  | $\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0}$ |
|  |  |  | $\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}$ |

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost $(\$)$ <br> $~$ |  |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
|  |  |  | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |
|  |  | $\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0}$ |  |
|  | $\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}$ |  |  |

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ |

This system of linear inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}
\end{gathered}
$$

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ |

This system of linear inequalities is called the system of constraints for this problem.

$$
\begin{gathered}
x \leq \mathbf{1 0 0} \\
y \leq \mathbf{8 0} \\
\mathbf{x}+\mathrm{y} \leq \mathbf{1 2 0} \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathrm{y} \geq \mathbf{0}
\end{gathered}
$$

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ |

This system of linear inequalities is called the system of constraints for this problem. We will graph this system.

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}
\end{gathered}
$$

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq \mathbf{1 0 0} \\
y \leq 80 \\
x+y \leq \mathbf{1 2 0} \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}
\end{gathered}
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq \mathbf{1 0 0} \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}
\end{gathered}
$$



## Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$



## Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq \mathbf{1 0 0} \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$



## Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq \mathbf{3 0 0 0} \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq \mathbf{3 0 0 0} \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
x \geq \mathbf{y} \quad y \geq 0
\end{gathered}
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq \mathbf{3 0 0 0} \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$



## Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
x \geq \mathbf{y} \quad y \geq 0
\end{gathered}
$$



## Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$



## Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq \mathbf{1 0 0} \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
x \geq \mathbf{y} \quad y \geq 0
\end{gathered}
$$



## Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad y \geq 0
\end{gathered}
$$

30y


Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
\mathrm{x} \leq \mathbf{1 0 0} \\
\mathrm{y} \leq \mathbf{8 0} \\
\mathrm{x}+\mathrm{y} \leq \mathbf{1 2 0} \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathrm{x} \geq \mathbf{0} \quad \mathrm{y} \geq \mathbf{0}
\end{gathered}
$$

$30 y \leq$


Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
\mathrm{x} \leq \mathbf{1 0 0} \\
\mathrm{y} \leq \mathbf{8 0} \\
\mathrm{x}+\mathrm{y} \leq \mathbf{1 2 0} \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathrm{x} \geq \mathbf{0} \quad \mathrm{y} \geq \mathbf{0}
\end{gathered}
$$

$$
30 y \leq-20 x
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad y \geq 0
\end{gathered}
$$

$$
30 y \leq-20 x+
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
\mathrm{x} \leq \mathbf{1 0 0} \\
\mathrm{y} \leq \mathbf{8 0} \\
\mathrm{x}+\mathrm{y} \leq \mathbf{1 2 0} \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathrm{x} \geq \mathbf{0} \quad \mathrm{y} \geq \mathbf{0}
\end{gathered}
$$

$$
30 y \leq-20 x+3000
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad y \geq 0
\end{gathered}
$$

$$
30 y \leq-20 x+3000
$$

y


Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad y \geq 0
\end{gathered}
$$

$$
30 y \leq-20 x+3000
$$

$$
\mathbf{y} \leq
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad y \geq 0
\end{gathered}
$$

$$
30 y \leq-20 x+3000
$$

$$
y \leq(-2 / 3) x
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad y \geq 0
\end{gathered}
$$

$$
30 y \leq-20 x+3000
$$

$$
y \leq(-2 / 3) x+
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
\mathrm{x} \leq \mathbf{1 0 0} \\
\mathrm{y} \leq \mathbf{8 0} \\
\mathrm{x}+\mathrm{y} \leq \mathbf{1 2 0} \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathrm{x} \geq \mathbf{0} \quad \mathrm{y} \geq \mathbf{0}
\end{gathered}
$$

$$
30 y \leq-20 x+3000
$$

$$
y \leq(-2 / 3) x+100
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad y \geq 0
\end{gathered}
$$

$$
30 y \leq-20 x+3000
$$

$$
y \leq(-2 / 3) x+100
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
\mathrm{x} \leq \mathbf{1 0 0} \\
\mathrm{y} \leq \mathbf{8 0} \\
\mathrm{x}+\mathrm{y} \leq \mathbf{1 2 0} \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathrm{x} \geq \mathbf{0} \quad \mathrm{y} \geq \mathbf{0}
\end{gathered}
$$

$$
30 y \leq-20 x+3000
$$

$$
y \leq(-2 / 3) x+100
$$



Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq \mathbf{1 0 0} \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq 0
\end{gathered}
$$

$30 y \leq-20 x+3000$

$$
y \leq(-2 / 3) x+100
$$



## Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq \mathbf{1 0 0} \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq 0
\end{gathered}
$$

$$
30 y \leq-20 x+3000
$$

$$
y \leq(-2 / 3) x+100
$$



## Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
\mathrm{x} \leq \mathbf{1 0 0} \\
\mathbf{y} \leq \mathbf{8 0} \\
\mathbf{x}+\mathrm{y} \leq \mathbf{1 2 0} \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}
\end{gathered}
$$



## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost $(\$)$ <br> $~$ |  |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
|  |  |  | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |
|  |  | $\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0}$ |  |
|  | $\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}$ |  |  |

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :---: | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |
| Now, let's consider the objective function. | $\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0}$ |  |  |
|  |  | $\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}$ |  |

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) |
| :--- | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ |

Now, let's consider the objective function.
They want to maximize their total harvest !!

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq 0
\end{gathered}
$$

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | Harvest <br> (pounds) |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ |  |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ |  |

Now, let's consider the objective function.
They want to maximize their total harvest !!

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}
\end{gathered}
$$

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | Harvest <br> (pounds) |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ |  |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ |  |

Now, let's consider the objective function.
They want to maximize their total harvest !!

$$
\begin{gathered}
\mathrm{x} \leq \mathbf{1 0 0} \\
\mathrm{y} \leq \mathbf{8 0} \\
\mathbf{x}+\mathrm{y} \leq \mathbf{1 2 0} \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}
\end{gathered}
$$

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | Harvest <br> (pounds) |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ |  |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ |  |
|  |  |  |  |

Now, let's consider the objective function. They want to maximize their total harvest !!

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost $(\$)$ | Harvest <br> (pounds) |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{1 0 0 0 x}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ |  |

Now, let's consider the objective function. They want to maximize their total harvest !!

$$
\begin{gathered}
\mathrm{x} \leq \mathbf{1 0 0} \\
\mathrm{y} \leq \mathbf{8 0} \\
\mathbf{x}+\mathrm{y} \leq \mathbf{1 2 0} \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathrm{x} \geq \mathbf{0} \quad \mathrm{y} \geq \mathbf{0}
\end{gathered}
$$

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | Harvest <br> (pounds) |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{1 0 0 0 x}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ |  |

Now, let's consider the objective function.
They want to maximize their total harvest !!

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}
\end{gathered}
$$

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | Harvest <br> (pounds) |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{1 0 0 0 x}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ |  |

Now, let's consider the objective function.
They want to maximize their total harvest !!

$$
\begin{gathered}
\mathrm{x} \leq \mathbf{1 0 0} \\
\mathrm{y} \leq \mathbf{8 0} \\
\mathbf{x}+\mathrm{y} \leq \mathbf{1 2 0} \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}
\end{gathered}
$$

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

| Bumber | Seed <br> of Acres | Harvest <br> Cost (\$) <br> (pounds) |  |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{1 0 0 0 x}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ |  |

Now, let's consider the objective function.
They want to maximize their total harvest !!

$$
\begin{gathered}
\mathrm{x} \leq \mathbf{1 0 0} \\
\mathrm{y} \leq \mathbf{8 0} \\
\mathbf{x}+\mathrm{y} \leq \mathbf{1 2 0} \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}
\end{gathered}
$$

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) <br> Barley | Harvest <br> (pounds) |
| :--- | :---: | :---: | :---: |
| (1000x |  |  |  |

Now, let's consider the objective function.
They want to maximize their total harvest !!

$$
\begin{gathered}
\mathrm{x} \leq \mathbf{1 0 0} \\
\mathrm{y} \leq \mathbf{8 0} \\
\mathbf{x}+\mathrm{y} \leq \mathbf{1 2 0} \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}
\end{gathered}
$$

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | Harvest <br> (pounds) |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{1 0 0 0 x}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{3 0 0 0}$ |

Now, let's consider the objective function.
They want to maximize their total harvest !!

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | Harvest <br> (pounds) | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :---: | :---: | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{1 0 0 0 x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{3 0 0 0}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |
| Now, let's consider the objective function. | $\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0}$ |  |  |  |
| T |  |  |  |  |

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost (\$) | Harvest <br> (pounds) | $\mathbf{x} \leq \mathbf{1 0 0}$ |
| :---: | :---: | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{1 0 0 0 x}$ | $\mathbf{y} \leq \mathbf{8 0}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{3 0 0 0}$ | $\mathbf{x}+\mathbf{y} \leq \mathbf{1 2 0}$ |
| Now, let's consider the objective function. | $\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0}$ |  |  |  |
| $\mathbf{T}=$ |  |  |  |  |

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number of Acres | $\begin{gathered} \text { Seed } \\ \text { Cost }(\$) \end{gathered}$ | $\begin{gathered} \text { Harvest } \\ \text { (pounds) } \end{gathered}$ | $\mathrm{x} \leq 100$ |
| :---: | :---: | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | 20x | 1000x | $\mathrm{y} \leq 80$ |
| Wheat | y | 30y | 3000y | $x+y \leq 120$ |
| Now, let's consider the objective function.$T=1000 x$ |  |  |  | $\begin{gathered} \mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\ \mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0} \end{gathered}$ |

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number of Acres | $\begin{gathered} \text { Seed } \\ \text { Cost (\$) } \end{gathered}$ | $\begin{aligned} & \text { Harvest } \\ & \text { (pounds) } \end{aligned}$ | $\mathrm{x} \leq 100$ |
| :---: | :---: | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | 20x | 1000x | $y \leq 80$ |
| Wheat | y | 30y | 3000y | $\mathrm{x}+\mathrm{y} \leq 120$ |
| Now, let's consider the objective function. $\mathrm{T}=1000 \mathrm{x}+$ |  |  |  | $\begin{gathered} \mathbf{2 0 x}+\mathbf{3 0} y \leq \mathbf{3 0 0 0} \\ x \geq 0 \quad y \geq 0 \end{gathered}$ |

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number of Acres | $\begin{gathered} \text { Seed } \\ \text { Cost }(\$) \end{gathered}$ | $\begin{gathered} \text { Harvest } \\ \text { (pounds) } \end{gathered}$ | $\mathrm{x} \leq 100$ |
| :---: | :---: | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | 20x | 1000x | $\mathrm{y} \leq 80$ |
| Wheat | y | 30y | 3000y | $\mathrm{x}+\mathrm{y} \leq 120$ |
| Now, let's consider the objective function.$T=1000 x+3000 y$ |  |  |  | $\begin{gathered} \mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\ \mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0} \end{gathered}$ |

## Algebra II Applying Systems of Linear Inequalities

A farming family wishes to plant some barley and some wheat. They can plant a maximum of 100 acres of barley and a maximum of 80 acres of wheat. However, they only have 120 acres of land available for planting. Barley costs $\$ 20$ per acre for seeds, and wheat costs $\$ 30$ per acre for seeds. However, they only have $\$ 3000$ available for seed costs. They expect a harvest of 1000 pounds per acre of barley and 3000 pounds per acre of wheat. How many acres of each crop should they plant to maximize their total harvest?

|  | Number <br> of Acres | Seed <br> Cost $(\$)$ | Harvest <br> (pounds) |
| :--- | :---: | :---: | :---: |
| Barley | $\mathbf{x}$ | $\mathbf{2 0 x}$ | $\mathbf{1 0 0 0 x}$ |
| Wheat | $\mathbf{y}$ | $\mathbf{3 0 y}$ | $\mathbf{3 0 0 0} \mathbf{y}$ |

Now, let's consider the objective function.

$$
T=1000 x+3000 y
$$

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function
$T=1000 x+3000 y$


Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function

$$
T=1000 x+3000 y
$$



Here is the rule:

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function $T=1000 x+3000 y$


Here is the rule: If the region of possible solutions is a convex polygonal region,

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function $T=1000 \mathrm{x}+3000 \mathrm{y}$


Here is the rule: If the region of $p$ ssible solutions is a convex polygonal region, (which it is)

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function $T=1000 x+3000 y$


Here is the rule: If the region of possible solutions is a convex polygonal region,

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function $T=1000 x+3000 y$


Here is the rule: If the region of possible solutions is a convex polygonal region, and the objective function is a linear function in terms of $x$ and $y$,

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function $T=1000 \mathrm{x}+3000 \mathrm{y}$


Here is the rule: If the regions possible solutions is a convex polygonal region, and the objective function is a linear function in terms of $x$ and $y$, (which it is)

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function $T=1000 x+3000 y$


Here is the rule: If the region of possible solutions is a convex polygonal region, and the objective function is a linear function in terms of $x$ and $y$,

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function $T=1000 x+3000 y$


Here is the rule: If the region of possible solutions is a convex polygonal region, and the objective function is a linear function in terms of $x$ and $y$, then the maximum

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function $T=1000 x+3000 y$


Here is the rule: If the region of possible solutions is a convex polygonal region, and the objective function is a linear function in terms of $x$ and $y$, then the maximum and the minimum values

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function $T=1000 x+3000 y$


Here is the rule: If the region of possible solutions is a convex polygonal region, and the objective function is a linear function in terms of $x$ and $y$, then the maximum and the minimum values will occur at a vertex of the region.

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq 0
\end{gathered}
$$

Objective Function

$$
T=1000 x+3000 y
$$

The graph represents all possible value of $x$ and $y$ for this problem.

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function

$$
T=1000 x+3000 y
$$

The graph represents all possible value of $x$ and $y$ for this problem. Clearly, the minimum value of $T$ corresponds to the vertex ( 0,0 ).

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function

$$
T=1000 x+3000 y
$$

The graph represents all possible value of $x$ and $y$ for this problem. Clearly, the minimum value of $T$ corresponds to the vertex ( 0,0 ). (If you plant 0 acres of Barley and 0 acres of wheat, the total harvest will be 0 pounds.)

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq 0
\end{gathered}
$$

Objective Function

$$
T=1000 x+3000 y
$$

The graph represents all possible value of $x$ and $y$ for this problem.

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function

$$
T=1000 x+3000 y
$$

The graph represents all possible value of $x$ and $y$ for this problem. Now, consider two values of T, the total Harvest.

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
x \geq \mathbf{y} \quad y \geq 0
\end{gathered}
$$

Objective Function

$$
T=1000 x+3000 y
$$

The graph represents all possible value of $x$ and $y$ for this problem. Now, consider two values of T, the total Harvest. $T=120,000$ pounds and $T=300,000$ pounds

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function
$T=1000 x+3000 y$


Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq 0
\end{gathered}
$$

Objective Function
$T=1000 \mathrm{x}+3000 \mathrm{y}$

If $\mathbf{T}=\mathbf{1 2 0 , 0 0 0}$ pounds,

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq 0
\end{gathered}
$$

Objective Function

$$
T=1000 x+3000 y
$$



If $T=120,000$ pounds, then $1000 x+3000 y=120,000$.

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq 0
\end{gathered}
$$

Objective Function
$T=1000 \mathrm{x}+3000 \mathrm{y}$


If $T=120,000$ pounds, then $1000 x+3000 y=120,000$.

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function
$T=1000 \mathrm{x}+3000 \mathrm{y}$



If $T=120,000$ pounds, then $1000 x+3000 y=120,000$.
This corresponds to the line $y=(-1 / 3) x+40$.

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function
$T=1000 \mathrm{x}+3000 \mathrm{y}$


If $T=120,000$ pounds, then $1000 x+3000 y=120,000$.
This corresponds to the line $\mathbf{y}=(-1 / 3) \mathbf{x}+40$. (I solved for $\mathbf{y}$.)

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function
$T=1000 \mathrm{x}+3000 \mathrm{y}$


If $T=120,000$ pounds, then $1000 x+3000 y=120,000$.
This corresponds to the line $y=(-1 / 3) x+40$. (I solved for $y$.)
Graphing this line,

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq \mathbf{1 0 0} \\
y \leq 80 \\
x+y \leq \mathbf{1 2 0} \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathrm{y} \geq \mathbf{0}
\end{gathered}
$$

Objective Function
$T=1000 \mathrm{x}+3000 \mathrm{y}$


If $T=120,000$ pounds, then $1000 x+3000 y=120,000$.
This corresponds to the line $y=(-1 / 3) x+40$. (I solved for $y$.)
Graphing this line,

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathrm{y} \geq \mathbf{0}
\end{gathered}
$$

Objective Function
$T=1000 \mathrm{x}+3000 \mathrm{y}$


If $T=120,000$ pounds, then $1000 x+3000 y=120,000$.
This corresponds to the line $\mathbf{y}=(-1 / 3) x+40$. (I solved for $\mathbf{y}$.)
Graphing this line, it is clear that there are many ways to achieve a total harvest of $\mathbf{1 2 0 , 0 0 0}$ pounds.

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq \mathbf{0}
\end{gathered}
$$

Objective Function
$T=1000 x+3000 y$


Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq \mathbf{3 0 0 0} \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function
$T=1000 x+3000 y$

If $\mathbf{T}=\mathbf{3 0 0}, 000$ pounds,

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq \mathbf{3 0 0 0} \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function
$T=1000 x+3000 y$


If $\mathbf{T}=\mathbf{3 0 0}, \mathbf{0 0 0}$ pounds, then $1000 x+3000 y=300,000$.

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq \mathbf{1 0 0} \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq 0
\end{gathered}
$$

Objective Function
$T=1000 \mathrm{x}+3000 \mathrm{y}$


If $\mathbf{T}=\mathbf{3 0 0}, \mathbf{0 0 0}$ pounds, then $1000 x+3000 y=300,000$.

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq \mathbf{1 0 0} \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq 0
\end{gathered}
$$

Objective Function
$T=1000 \mathrm{x}+3000 \mathrm{y}$


If $\mathbf{T}=\mathbf{3 0 0}, \mathbf{0 0 0}$ pounds, then $1000 x+3000 y=300,000$.
This corresponds to the line $y=(-1 / 3) x+100$.

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq 0
\end{gathered}
$$

Objective Function
$T=1000 \mathrm{x}+3000 \mathrm{y}$


If $\mathbf{T}=\mathbf{3 0 0}, 000$ pounds, then $1000 x+3000 y=300,000$.
This corresponds to the line $\mathbf{y}=(\mathbf{- 1 / 3}) \mathbf{x}+\mathbf{1 0 0}$. (I solved for $\mathbf{y}$.)

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq \mathbf{1 0 0} \\
y \leq 80 \\
x+y \leq 120 \\
\mathbf{2 0 x}+\mathbf{3 0 y} \leq \mathbf{3 0 0 0} \\
\mathbf{x} \geq \mathbf{0} \quad \mathbf{y} \geq 0
\end{gathered}
$$

Objective Function
$T=1000 \mathrm{x}+3000 \mathrm{y}$


If $\mathbf{T}=\mathbf{3 0 0}, \mathbf{0 0 0}$ pounds, then $1000 x+3000 y=300,000$.
This corresponds to the line $y=(-1 / 3) x+100$.

Algebra II Applying Systems of Linear Inequalities

$$
\begin{gathered}
x \leq 100 \\
y \leq 80 \\
x+y \leq 120 \\
20 x+30 y \leq 3000 \\
x \geq 0 \quad y \geq 0
\end{gathered}
$$

Objective Function
$T=1000 \mathrm{x}+3000 \mathrm{y}$


If $\mathbf{T}=\mathbf{3 0 0}, \mathbf{0 0 0}$ pounds, then $1000 x+3000 y=300,000$.
This corresponds to the line $y=(-1 / 3) x+100$. Here is the graph of this line.

Algebra II Applying Systems of Linear Inequalities


If $T=300,000$ pounds, then $1000 x+3000 y=300,000$.
This corresponds to the line $y=(-1 / 3) x+100$. Here is the graph of this line.

Algebra II Applying Systems of Linear Inequalities


Algebra II Applying Systems of Linear Inequalities


If $T=300,000$ pounds, then $1000 x+3000 y=300,000$.
This corresponds to the line $\mathbf{y}=(\mathbf{- 1 / 3}) \mathbf{x}+\mathbf{1 0 0}$. It is clear that it is not possible to achieve a total harvest of 300,000 pounds.

Algebra II Applying Systems of Linear Inequalities


If $T=300,000$ pounds, then $1000 x+3000 y=300,000$.
This corresponds to the line $\mathbf{y}=(-1 / 3) x+100$. It is clear that it is not possible to achieve a total harvest of 300,000 pounds.
(The line does not intersect the 'green' shaded region.)

Algebra II Applying Systems of Linear Inequalities


Algebra II Applying Systems of Linear Inequalities


Finally, let's consider a total harvest of $\mathbf{1 8 0 , 0 0 0}$ pounds.

Algebra II Applying Systems of Linear Inequalities


Finally, let's consider a total harvest of $\mathbf{1 8 0 , 0 0 0}$ pounds.
This corresponds to the equation $1000 x+3000 y=180,000$.

Algebra II Applying Systems of Linear Inequalities


Finally, let's consider a total haxyest of 180,000 pounds.
This corresponds to the equation $1000 x+3000 y=180,000$.

Algebra II Applying Systems of Linear Inequalities


Finally, let's consider a total haxyest of 180,000 pounds.
This corresponds to the equation $1000 x+3000 y=180,000$ or

$$
y=(-1 / 3) x+60
$$

Algebra II Applying Systems of Linear Inequalities


Finally, let's consider a total faryest of $\mathbf{1 8 0 , 0 0 0}$ pounds.
This corresponds to the equation $1000 x+3000 y=180,000$ or $y=(-1 / 3) x+60$. Here is the graph of this equation.

Algebra II Applying Systems of Linear Inequalities


Finally, let's consider a total faryest of $\mathbf{1 8 0 , 0 0 0}$ pounds.
This corresponds to the equation $1000 x+3000 y=180,000$ or $y=(-1 / 3) x+60$. Here is the graph of this equation.

Algebra II Applying Systems of Linear Inequalities


Finally, let's consider a total haxyest of 180,000 pounds.
This corresponds to the equation $1000 x+3000 y=180,000$ or

$$
y=(-1 / 3) x+60
$$

Algebra II Applying Systems of Linear Inequalities


What is important here

Algebra II Applying Systems of Linear Inequalities


What is much more important here

Algebra II Applying Systems of Linear Inequalities


What is much more important here is the relationship between the three lines that we have graphed that correspond to the different values of the total harvest.

Algebra II Applying Systems of Linear Inequalities


Algebra II Applying Systems of Linear Inequalities


They all have the same slope.

Algebra II Applying Systems of Linear Inequalities


They all have the same slope. The only difference is the y-intercept.

Algebra II Applying Systems of Linear Inequalities


They all have the same slope. The only difference is the y-intercept. As the 'potential' total harvest increases,

Algebra II Applying Systems of Linear Inequalities


They all have the same slope. The only difference is the $y$-intercept. As the 'potential' total harvest increases, the $y$-intercept increases as well.

Algebra II Applying Systems of Linear Inequalities


Algebra II Applying Systems of Linear Inequalities


Looking at this graph,

Algebra II Applying Systems of Linear Inequalities


Looking at this graph, you may be able to determine where the line corresponding to the maximum total harvest would intersect the graph

Algebra II Applying Systems of Linear Inequalities


Looking at this graph, you may be able to determine where the line corresponding to the maximum total harvest would intersect the graph ${ }^{--}$

Algebra II Applying Systems of Linear Inequalities


Looking at this graph, you may be able to determine where the line corresponding to the maximum total harvest would intersect the graph - at the vertex $(30,80)$.

Algebra II Applying Systems of Linear Inequalities


Looking at this graph, you may be able to determine where the line corresponding to the maximum total harvest would intersect the graph - at the vertex $(30,80)$. Here is that line.

Algebra II Applying Systems of Linear Inequalities


Looking at this graph, you may be able to determine where the line corresponding to the maximum total harvest would intersect the graph - at the vertex $(30,80)$. Here is that line.

Algebra II Applying Systems of Linear Inequalities


Looking at this graph, you may be able to determine where the line corresponding to the maximum total harvest would intersect the graph - at the vertex $(30,80)$. Here is that line.

Algebra II Applying Systems of Linear Inequalities


Looking at this graph, you may be able to determine where the line corresponding to the maximum total harvest would intersect the graph - at the vertex $(30,80)$. Here is that line.

## Algebra II Applying Systems of Linear Inequalities



Algebra II Applying Systems of Linear Inequalities


So, the maximum total harvest they can achieve is $\mathbf{2 7 0 , 0 0 0}$ pounds.

Algebra II Applying Systems of Linear Inequalities


So, the maximum total harvest they can achieve is $\mathbf{2 7 0 , 0 0 0}$ pounds. They should plant 30 acres of Barley and 80 acres of wheat.

Algebra II Applying Systems of Linear Inequalities


So, the maximum total harvest they can achieve is $\mathbf{2 7 0 , 0 0 0}$ pounds. They should plant 30 acres of Barley and 80 acres of wheat. That's not really the end of the story.

Algebra II Applying Systems of Linear Inequalities


So, the maximum total harvest they can achieve is 270,000 pounds. They should plant 30 acres of Barley and 80 acres of wheat. That's not really the end of the story. What have we observed when solving this problem?

Algebra II Applying Systems of Linear Inequalities


If the objective function, $T$,

Algebra II Applying Systems of Linear Inequalities


If the objective function, $T$, is a linear function in terms of $x$ and $y$,

Algebra II Applying Systems of Linear Inequalities


If the objective function, $T$, is a linear function in terms of $x$ and $y$, and the region of possible outcomes

Algebra II Applying Systems of Linear Inequalities


If the objective function, $T$, is a linear function in terms of $x$ and $y$, and the region of possible outcomes is represented by a convex polygonal region,

Algebra II Applying Systems of Linear Inequalities


If the objective function, $T$, is a linear function in terms of $x$ and $y$, and the region of possible outcomes is represented by a convex polygonal region, then the maximum (and the minimum) values $\mathbf{T}$

Algebra II Applying Systems of Linear Inequalities


If the objective function, $T$, is a linear function in terms of $x$ and $y$, and the region of possible outcomes is represented by a convex polygonal region, then the maximum (and the minimum) values $T$ will occur at a vertex of the region.

## Algebra II Class Worksheet \#4 Unit 4

Below, you are given a graph of a system of inequalities (system of constraints) and several objective functions. In each case, you are to find both the maximum and the minimum value of the objective function and the vertex at which each occurs.

Algebra II Class Worksheet \#4 Unit 4


1. $T=3 x+5 y$
$\mathrm{T}_{\text {max }}=$
at
$\mathrm{T}_{\text {min }}=\ldots \quad$ at

Algebra II Class Worksheet \#4 Unit 4


1. $T=3 x+5 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At A(-1,0)

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At $\mathrm{A}(-1,0) \quad \mathrm{T}=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at

At $\mathrm{A}(-1,0) \quad \mathrm{T}=-3$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$
$T_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at

At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$
$T_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$
$T_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}$
At B(5,-1)

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
At A(-1,0) $\Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}$
At $B(5,-1) ~ \Longleftrightarrow T=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=15$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
At A(-1,0) $\Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}$
At $\mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
At A(-1,0) $\Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}$
At $\mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
At A(-1,0) $\Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}$
At $\mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
At A(-1,0) $\Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=15+-5=\mathbf{1 0}$

## Algebra II Class Worksheet \#4 Unit 4

The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 1. } \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=-\quad \text { at }
\end{aligned}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}
$$

$$
\text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5=\mathbf{1 0}
$$

$$
\text { At C }(8,2)
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 1 . \quad \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\quad \text { at } \\
& \mathrm{T}_{\min }=\quad \text { at }
\end{aligned}
$$

$\qquad$

At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=15+-5=\mathbf{1 0}$
At $\mathrm{C}(8,2) \quad \mathrm{T}=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 1. } \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\quad \text { at } \\
& \mathrm{T}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 1 . \quad \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\quad \text { at } \\
& \mathrm{T}_{\min }=\quad \text { at }
\end{aligned}
$$

$\qquad$

At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=15+-5=\mathbf{1 0}$
At $\mathrm{C}(8,2) \quad \mathrm{T}=24+$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 1 . \quad \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\quad \text { at } \\
& \mathrm{T}_{\min }=\quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 1 . \quad \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\quad \text { at } \\
& \mathrm{T}_{\min }=\quad \text { at }
\end{aligned}
$$

$\qquad$

At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=15+-5=\mathbf{1 0}$
At $\mathrm{C}(8,2) \quad \mathrm{T}=24+10=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 1. } \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\quad \text { at } \\
& \mathrm{T}_{\text {min }}=\quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=24+10=\mathbf{3 4}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 1 . \quad \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}$
At $\mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+\mathbf{-}=\mathbf{1 0}$
At $\mathrm{C}(8,2) \Longrightarrow \mathrm{T}=24+10=\mathbf{3 4}$
At $\mathrm{D}(5,8)$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 1 . \quad \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}$
At $\mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+\mathbf{-}=\mathbf{1 0}$
At $\mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4}$
At $\mathrm{D}(5,8) \Longrightarrow \mathrm{T}=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 1 . \quad \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+\mathbf{-}=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \Longrightarrow \mathrm{T}=15
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 1 . \quad \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}$
At $\mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+\mathbf{-}=\mathbf{1 0}$
At $\mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4}$
At $\mathrm{D}(5,8) \Longrightarrow \mathrm{T}=15+$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 1 . \quad \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=15+40
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 1 . \quad \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \quad \Longleftrightarrow \mathrm{T}=15+40=
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 1 . \quad \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+\mathbf{-}=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \quad \Longleftrightarrow \mathrm{T}=15+40=\mathbf{5 5}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 1. } \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=\quad \text { at }
\end{aligned}
$$

$\qquad$
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}$
At $\mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+\mathbf{-}=\mathbf{1 0}$
At $\mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4}$
At $\mathrm{D}(5,8) \Longrightarrow \mathrm{T}=15+40=\mathbf{5 5}$

At $\mathrm{E}(-1,5)$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 1. } \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=\quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=15+40=\mathbf{5 5} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 1. } \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=\quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=15+40=\mathbf{5 5} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-3
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 1. } \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=\quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=15+40=\mathbf{5 5} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-3+
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 1. } \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=\quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=15+40=\mathbf{5 5} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-3+25
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 1. } \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=\quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=15+40=\mathbf{5 5} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-3+25=
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 1. } \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=\quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+\mathbf{-}=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=15+40=\mathbf{5 5} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-3+25=\mathbf{2 2}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 1. } \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\ldots \text { at } \\
& \mathrm{T}_{\min }=\ldots \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+\mathbf{-}=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=15+40=\mathbf{5 5} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-3+25=\mathbf{2 2}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.


$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=15+40=\mathbf{5 5}
\end{aligned}
$$

$$
\operatorname{At} \mathrm{E}(-1,5) \quad \mathrm{T}=-3+25=\mathbf{2 2}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 1. } \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\mathbf{5 5} \text { at } \\
& \mathrm{T}_{\min }=\square \text { at }
\end{aligned}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=15+40=\mathbf{5 5}
\end{aligned}
$$

$$
\operatorname{At} \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-3+25=\mathbf{2 2}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 1 . \quad \mathrm{T}=3 \mathrm{x}+5 \mathrm{y} \\
& \mathrm{~T}_{\max }=\mathbf{5 5} \text { at } \quad \text { at } \quad \mathrm{(5,8)} \\
& \mathrm{~T}_{\min }=
\end{aligned}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+\mathbf{-}=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=15+40=\mathbf{5 5}
\end{aligned}
$$

$$
\text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-3+25=\mathbf{2 2}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$

$$
\begin{array}{ll}
\mathrm{T}_{\max }=\mathbf{5 5} & \text { at }  \tag{5,8}\\
\mathrm{T}_{\min }= & \text { at }
\end{array}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+\mathbf{-}=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=15+40=\mathbf{5 5} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-3+25=\mathbf{2 2}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$


$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+\mathbf{-}=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=15+40=\mathbf{5 5} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-3+25=\mathbf{2 2}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$

$$
\begin{array}{ll}
\mathrm{T}_{\max }=\mathbf{5 5} \quad \text { at } \quad \mathbf{( 5 , 8 )} \\
\mathrm{T}_{\min }= & \text { at }
\end{array}
$$

$$
\text { At A(-1,0) } \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}
$$

$$
\text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+-5=\mathbf{1 0}
$$

$$
\operatorname{At} \mathrm{C}(8,2) \quad \Longrightarrow \mathrm{T}=24+10=\mathbf{3 4}
$$

$$
\text { At } \mathrm{D}(5,8) \quad \Longleftrightarrow \mathrm{T}=15+40=\mathbf{5 5}
$$

$$
\text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-3+25=\mathbf{2 2}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$

$$
\begin{align*}
& \mathrm{T}_{\max }=\underline{55} \text { at } \quad \begin{array}{l}
(5,8) \\
\mathrm{T}_{\min }=-3
\end{array}
\end{align*}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+\mathbf{-}=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=15+40=\mathbf{5 5} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-3+25=\mathbf{2 2}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$

$$
\begin{array}{ll}
\mathrm{T}_{\max } & =55 \\
\mathrm{~T}_{\min } & =-3 \\
\text { at } \quad \text { at }(5,8) \\
(-1,0)
\end{array}
$$

$$
\text { At A(-1,0) } \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3}
$$

$$
\begin{aligned}
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+\mathbf{-}=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=15+40=\mathbf{5 5} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-3+25=\mathbf{2 2}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

1. $T=3 x+5 y$

$$
\begin{aligned}
& \mathrm{T}_{\max }=-55 \text { at }-(5,8) \\
& \mathrm{T}_{\min }=-3 \quad \text { at } \underline{(-1,0)}
\end{aligned}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-3+0=\mathbf{- 3} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=15+\mathbf{-}=\mathbf{1 0} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=24+10=\mathbf{3 4} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=15+40=\mathbf{5 5} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-3+25=\mathbf{2 2}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
2. $T=6 x-2 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
2. $T=6 x-2 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
2. $T=6 x-2 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At A(-1,0)

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
2. $T=6 x-2 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At $\mathrm{A}(-1,0) \quad \mathrm{T}=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
2. $T=6 x-2 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 2 . \quad \mathrm{T}=6 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~T}_{\max }=-\quad \text { at } \\
& \mathrm{T}_{\min }=-\quad \text { at }
\end{aligned}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
2. $T=6 x-2 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
2. $T=6 x-2 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6}$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
2. $T=6 x-2 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6}$
At B(5,-1)

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
2. $T=6 x-2 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at

At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6}$
At $B(5,-1) ~ \Longleftrightarrow T=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=-6
$$

$$
\text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=-6
$$

$$
\operatorname{At~} \mathrm{B}(5,-1) \quad \mathrm{T}=30-
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=-6
$$

$$
\text { At } \mathrm{B}(5,-1) \quad \mathrm{T}=30--2
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=-6
$$

$$
\text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6}
$$

$$
\text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2}
$$

## Algebra II Class Worksheet \#4 Unit 4

The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=-6
$$

$$
\text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2}
$$

$$
\text { At C }(8,2)
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$\qquad$

At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=30--2=\mathbf{3 2}$
At $\mathrm{C}(8,2) \quad \mathrm{T}=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \Longrightarrow \mathrm{T}=48
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6}
$$

$$
\text { At } \mathrm{B}(5,-1) \quad \mathrm{T}=30--2=\mathbf{3 2}
$$

$$
\text { At } \mathrm{C}(8,2) \quad \mathrm{T}=48-
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=-6
$$

$$
\text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2}
$$

$$
\text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=48-4
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$\qquad$

At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=30--2=\mathbf{3 2}$
At $\mathrm{C}(8,2) \quad \mathrm{T}=48-4=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=-6
$$

$$
\text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2}
$$

$$
\text { At } \mathrm{C}(8,2) \quad \mathrm{T}=48-4=44
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 2 . \quad \mathrm{T}=6 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~T}_{\max }=-\quad \text { at } \\
& \mathrm{T}_{\text {min }}=
\end{aligned}
$$

$\qquad$
At $\mathrm{A}(-1,0) \longrightarrow \mathrm{T}=-6-0=\mathbf{- 6}$
At $\mathrm{B}(5,-1) \longrightarrow \mathrm{T}=30--2=\mathbf{3 2}$
At $\mathrm{C}(8,2) \longrightarrow \mathrm{T}=48-4=\mathbf{4 4}$
At $\mathrm{D}(5,8)$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$$
\operatorname{At~} \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=-6
$$

$$
\text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2}
$$

$$
\text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=48-4=\mathbf{4 4}
$$

$$
\text { At } \mathrm{D}(5,8) \quad \mathrm{T}=
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \Longrightarrow \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \Longrightarrow \mathrm{T}=30
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max }= & \text { at } \\
\mathrm{T}_{\text {min }}= & \text { at }
\end{array}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \Longrightarrow \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \Longrightarrow \mathrm{T}=30-
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \Longrightarrow \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \Longrightarrow \mathrm{T}=30-16
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \Longrightarrow \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \Longrightarrow \mathrm{T}=30-16=
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \Longrightarrow \mathrm{T}=30-16=\mathbf{1 4}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$\qquad$

$$
\begin{aligned}
& \text { At A(-1,0) } \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \quad \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \quad \mathrm{T}=48-4=44 \\
& \text { At } \mathrm{D}(5,8) \quad \mathrm{T}=30-16=\mathbf{1 4} \\
& \text { At E }(-1,5) \quad \longrightarrow
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=30-16=\mathbf{1 4} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=30-16=\mathbf{1 4} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-6
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=30-16=\mathbf{1 4} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-6-
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=30-16=\mathbf{1 4} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-6-10
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=30-16=\mathbf{1 4} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-6-10=
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{array}{ll}
2 . & T=6 x-2 y \\
T_{\max } & =- \\
T_{\text {min }} & \text { at } \\
\text { at }
\end{array}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=30-16=\mathbf{1 4} \\
& \text { At } \mathrm{E}(-1,5) \longmapsto \mathrm{T}=-6-10=\mathbf{- 1 6}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.


Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 2. } T=6 x-2 y \\
& \mathrm{~T}_{\text {max }}=\ldots \text { at } \\
& \mathrm{T}_{\text {min }}=\ldots \text { at } \\
& \begin{array}{l}
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
\text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30-\mathbf{-}=\mathbf{3 2} \\
\text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=48-4=\mathbf{4 4} \\
\text { At } \mathrm{D}(5,8) \longrightarrow \mathrm{T}=30-16=\mathbf{1 4} \\
\text { At } \mathrm{E}(-1,5) \longmapsto \mathrm{T}=-6-10=\mathbf{- 1 6}
\end{array}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 2. } \mathrm{T}=6 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~T}_{\max }=44 \text { at } \\
& \mathrm{T}_{\text {min }}=\square
\end{aligned}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30-\mathbf{-}=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=30-16=\mathbf{1 4} \\
& \text { At } \mathrm{E}(-1,5) \longmapsto \mathrm{T}=-6-10=\mathbf{- 1 6}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 2 . \mathrm{T}=6 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~T}_{\max }=\mathbf{4 4} \text { at } \underline{(8,2)} \\
& \mathrm{T}_{\min }=\longrightarrow \text { at } \longrightarrow \\
& \text { At } \mathrm{A}(-1,0) \Longrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \operatorname{At~} \mathrm{C}(8,2) \Longrightarrow \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \Longrightarrow \mathrm{T}=30-16=\mathbf{1 4} \\
& \text { At } \mathrm{E}(-1,5) \Longrightarrow \mathrm{T}=-6-10=\mathbf{- 1 6}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
2. $T=6 x-2 y$

$$
\begin{array}{ll}
\mathrm{T}_{\max }=\_\mathbf{4 4} & \text { at } \quad \mathbf{( 8 , 2 )}  \tag{8,2}\\
\mathrm{T}_{\min }= & \text { at } \longrightarrow
\end{array}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=30-16=\mathbf{1 4} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-6-10=\mathbf{- 1 6}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 2 . \quad T=6 x-2 y \\
& T_{\max }=\underline{44} \text { at } \quad \text { at } \quad \begin{array}{l}
(8,2) \\
T_{\min }=
\end{array}
\end{aligned}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=30-16=\mathbf{1 4} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-6-10=\mathbf{- 1 6}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 2 . \quad \mathrm{T}=6 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~T}_{\max }=\underline{44} \text { at } \quad \begin{array}{l}
(8,2) \\
\mathrm{T}_{\min }=
\end{array}
\end{aligned}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=30-16=\mathbf{1 4}
\end{aligned}
$$

$$
\text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-6-10=\mathbf{- 1 6}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 2. } \mathrm{T}=6 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~T}_{\max }=44 \text { at } \quad(8,2) \\
& \mathrm{T}_{\min }=-16 \text { at }
\end{aligned}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=30-16=\mathbf{1 4}
\end{aligned}
$$

$$
\text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-6-10=\mathbf{- 1 6}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 2. } \mathrm{T}=6 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~T}_{\max }=\underline{44} \text { at } \quad \begin{array}{l}
(8,2) \\
\mathrm{T}_{\min }=\underline{-16} \text { at } \quad(-1,5)
\end{array}
\end{aligned}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6}
$$

$$
\text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2}
$$

$$
\text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=48-4=44
$$

$$
\text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=30-16=\mathbf{1 4}
$$

$$
\text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-6-10=\mathbf{- 1 6}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
2. $T=6 x-2 y$

$$
\begin{aligned}
& T_{\max }=44 \\
& T_{\min }=-16 \text { at }-(8,2) \\
& (-1,5)
\end{aligned}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-6-0=\mathbf{- 6} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=30--2=\mathbf{3 2} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=48-4=\mathbf{4 4} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=30-16=\mathbf{1 4} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-6-10=\mathbf{- 1 6}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at $\qquad$
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at $\qquad$
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At A(-1,0)

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At $\mathrm{A}(-1,0) \quad \mathrm{T}=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $\mathrm{T}=\mathrm{x}-3 \mathrm{y}$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $\mathrm{T}=\mathrm{x}-3 \mathrm{y}$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $\mathrm{T}=\mathrm{x}-3 \mathrm{y}$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $\mathrm{T}=\mathrm{x}-3 \mathrm{y}$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1-0=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $\mathrm{T}=\mathrm{x}-3 \mathrm{y}$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$
At B(5,-1)

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$
At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \Longrightarrow \mathrm{T}=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$
$\operatorname{AtB}(5,-1) \quad \mathrm{T}=5$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=5-$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$
$\operatorname{At} B(5,-1) \quad \mathrm{T}=5--3$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=5--3=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=5--3=\mathbf{8}$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=5--3=\mathbf{8}$
At $C(8,2) \quad \longrightarrow$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=5--3=\mathbf{8}$
At $\mathrm{C}(8,2) \quad \mathrm{T}=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=5--3=\mathbf{8}$
At $\mathrm{C}(8,2) \quad \mathrm{T}=8-$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
$\qquad$
$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
$\qquad$
$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
$\qquad$
$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5-\mathbf{- 3}=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=\mathbf{2}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at $\qquad$
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8}$
At $\mathrm{C}(8,2) \longrightarrow \mathrm{T}=8-6=\mathbf{2}$
At $\mathrm{D}(5,8) \longrightarrow$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
$\qquad$
$\qquad$
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8}$
At $\mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=\mathbf{2}$
At $\mathrm{D}(5,8) \Longrightarrow \mathrm{T}=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
$\qquad$
$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5-\mathbf{- 3}=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
$\qquad$
$\qquad$
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8}$
At $\mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=\mathbf{2}$
At $\mathrm{D}(5,8) \longmapsto \mathrm{T}=5-$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
$\qquad$
$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5-\mathbf{- 3}=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5-24
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
$\qquad$
$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \Longrightarrow \mathrm{T}=5-24=
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at
$\qquad$
$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5-24=\mathbf{- 1 9}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at $\qquad$
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

At $\mathrm{A}(-1,0) \longrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5-\mathbf{-}=\mathbf{8}$
At $\mathrm{C}(8,2) \longrightarrow \mathrm{T}=8-6=\mathbf{2}$
At $\mathrm{D}(5,8) \longrightarrow \mathrm{T}=5-24=\mathbf{- 1 9}$
At $\mathrm{E}(-1,5)$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5-24=\mathbf{- 1 9} \\
& \text { At } \mathrm{E}(-1,5) \Longrightarrow \mathrm{T}=
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$
$\mathrm{T}_{\text {max }}=\ldots$ at $\qquad$
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5-24=\mathbf{- 1 9} \\
& \text { At } \mathrm{E}(-1,5) \Longrightarrow \mathrm{T}=-1
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\text { 3. } T=x-3 y
$$

$$
\begin{array}{ll}
\mathrm{T}_{\max }= & \text { at } \\
\mathrm{T}_{\text {min }}= & \text { at }
\end{array}
$$

$\qquad$
$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5-24=\mathbf{- 1 9} \\
& \text { At } \mathrm{E}(-1,5) \Longrightarrow \mathrm{T}=-1-
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\text { 3. } T=x-3 y
$$

$$
\begin{array}{ll}
\mathrm{T}_{\max }= & \text { at } \\
\mathrm{T}_{\text {min }}= & \text { at }
\end{array}
$$

$\qquad$
$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5-24=\mathbf{- 1 9} \\
& \text { At } \mathrm{E}(-1,5) \Longrightarrow \mathrm{T}=-1-15
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\text { 3. } T=x-3 y
$$

$$
\begin{array}{ll}
\mathrm{T}_{\max }= & \text { at } \\
\mathrm{T}_{\text {min }}= & \text { at }
\end{array}
$$

$\qquad$
$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5-24=\mathbf{- 1 9} \\
& \text { At } \mathrm{E}(-1,5) \Longrightarrow \mathrm{T}=-1-15=
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\text { 3. } T=x-3 y
$$

$$
\begin{array}{ll}
\mathrm{T}_{\max }= & \text { at } \\
\mathrm{T}_{\text {min }}= & \text { at }
\end{array}
$$

$\qquad$
$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5-24=\mathbf{- 1 9} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-1-15=\mathbf{- 1 6}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.


Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.

| 3. $\mathrm{T}=$ | T $=x-3 y$ |
| :---: | :---: |
| $\mathrm{T}_{\text {max }}=$ | $=\ldots$ at |
| $\mathrm{T}_{\text {min }}=$ | $=\ldots$ at |
| At A(-1,0) | 0) $\Longleftrightarrow \mathrm{T}=-1-0=-1$ |
| At B(5,-1) | 1) $\Longleftrightarrow \mathrm{T}=5--3=8$ |
| At C(8,2) | ) $\Longleftrightarrow \mathrm{T}=8-6=\mathbf{2}$ |
| At $\mathrm{D}(5,8)$ | ) $\Longleftrightarrow \mathrm{T}=5-24=-19$ |
| At E (-1,5) | 5) $\Longleftrightarrow \mathrm{T}=-1-15=\mathbf{- 1 6}$ |

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 3 . \mathrm{T}=\mathrm{x}-3 \mathrm{y} \\
& \mathrm{~T}_{\max }=\_\mathbf{8} \text { at } \\
& \mathrm{T}_{\min }=\_ \text {at }
\end{aligned}
$$

At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5-\mathbf{-}=\mathbf{8}$
At $\mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=\mathbf{2}$
At $\mathrm{D}(5,8) \longmapsto \mathrm{T}=5-24=\mathbf{- 1 9}$
At $\mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-1-15=\mathbf{- 1 6}$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 3. } \mathrm{T}=\mathrm{x}-3 \mathrm{y} \\
& \mathrm{~T}_{\max }=\_8 \quad \text { at } \quad \mathrm{T}_{(5,-1)} \\
& \mathrm{T}_{\min }=\_\quad \text { at }
\end{aligned}
$$

$$
\text { At A(-1,0) } \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1}
$$

$$
\text { At } B(5,-1) \Longrightarrow \mathrm{T}=5--3=\mathbf{8}
$$

$$
\text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=\mathbf{2}
$$

$$
\text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5-24=\mathbf{- 1 9}
$$

$$
\text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-1-15=\mathbf{- 1 6}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$

$$
\begin{array}{ll}
\mathrm{T}_{\max }=\_ \text {at } \quad \text { at } \quad \mathbf{5 , - 1 )} \\
\mathrm{T}_{\min }= & \text { at }
\end{array}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5-24=\mathbf{- 1 9} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-1-15=\mathbf{- 1 6}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\text { 3. } T=x-3 y
$$

$$
\begin{array}{ll}
\mathrm{T}_{\max }=\ldots \mathbf{8} \quad \text { at } \quad \text { at } \mathbf{( 5 , - 1 )} \\
\mathrm{T}_{\min }= &
\end{array}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5-\mathbf{- 3}=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5-24=\mathbf{- 1 9} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-1-15=\mathbf{- 1 6}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $\mathrm{T}=\mathrm{x}-3 \mathrm{y}$

$$
\begin{array}{ll}
\mathrm{T}_{\max }=\ldots \mathbf{8} \quad \text { at } \quad \text { (5,-1) } \\
\mathrm{T}_{\min } & =\square
\end{array}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5-\mathbf{-}=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5-24=\mathbf{- 1 9} \\
& \text { At } \mathrm{E}(-1,5) \longmapsto \mathrm{T}=-1-15=\mathbf{- 1 6}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\text { 3. } T=x-3 y
$$

$$
\begin{aligned}
& \mathrm{T}_{\max }=-8 \quad \text { at } \quad(5,-1) \\
& \mathrm{T}_{\min }=-19 \text { at }
\end{aligned}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5-\mathbf{-}=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5-24=\mathbf{- 1 9} \\
& \text { At } \mathrm{E}(-1,5) \longmapsto \mathrm{T}=-1-15=\mathbf{- 1 6}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\text { 3. } T=x-3 y
$$

$$
\begin{aligned}
\mathrm{T}_{\max } & =-8 \\
\mathrm{~T}_{\min } & =-19
\end{aligned} \text { at } \quad \text { at } \frac{(5,-1)}{(5,8)}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5-\mathbf{-}=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5-24=\mathbf{- 1 9} \\
& \text { At } \mathrm{E}(-1,5) \longmapsto \mathrm{T}=-1-15=\mathbf{- 1 6}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
3. $T=x-3 y$

$$
\begin{aligned}
& \mathrm{T}_{\max }=-8 \quad \text { at } \quad(5,-1) \\
& \mathrm{T}_{\min }=-19 \text { at } \xrightarrow[(5,8)]{ }
\end{aligned}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1-0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5--3=\mathbf{8} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=8-6=\mathbf{2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5-24=\mathbf{- 1 9} \\
& \text { At } \mathrm{E}(-1,5) \longmapsto \mathrm{T}=-1-15=\mathbf{- 1 6}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
4. $T=x+2 y$
$\mathrm{T}_{\text {max }}=\ldots$ at
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
4. $\quad T=x+2 y$
$\mathrm{T}_{\text {max }}=\ldots$ at $\qquad$
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\text { 4. } T=x+2 y
$$

$\mathrm{T}_{\text {max }}=\ldots$ at $\qquad$
$\mathrm{T}_{\text {min }}=\ldots$ at $\qquad$
At A(-1,0) $\quad \longrightarrow$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=-\quad \text { at } \\
& \mathrm{T}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$

At $\mathrm{A}(-1,0) \quad \mathrm{T}=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=-\quad \text { at } \\
& \mathrm{T}_{\min }=-\quad \text { at }
\end{aligned}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=-\quad \text { at } \\
& \mathrm{T}_{\min }=-\quad \text { at }
\end{aligned}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=-\quad \text { at } \\
& \mathrm{T}_{\min }=-\quad \text { at }
\end{aligned}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=-\quad \text { at } \\
& \mathrm{T}_{\min }=-\quad \text { at }
\end{aligned}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=-\quad \text { at } \\
& \mathrm{T}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=-\quad \text { at } \\
& \mathrm{T}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$

At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}$
At B(5,-1)

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 4. } \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=-\quad \text { at } \\
& \mathrm{T}_{\min }=\quad \text { at }
\end{aligned}
$$

$\qquad$

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}$
At $B(5,-1) ~ \Longleftrightarrow T=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 4. } \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=-\quad \text { at } \\
& \mathrm{T}_{\min }=\quad \text { at }
\end{aligned}
$$

$\qquad$

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}$
$\operatorname{AtB}(5,-1) \Longleftrightarrow \mathrm{T}=5$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }= \\
& \mathrm{T}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}$
$\operatorname{At} B(5,-1) \Longleftrightarrow \mathrm{T}=5+$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=-\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=-\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=5+-2=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=-\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

At A(-1,0) $\Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}$
$\operatorname{At} \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3}$

## Algebra II Class Worksheet \#4 Unit 4

The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=\quad \text { at } \\
& \mathrm{T}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$

At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}$
$\operatorname{At} \mathrm{B}(5,-1) \quad \mathrm{T}=5+-2=3$
At $\mathrm{C}(8,2)$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\text {min }}=\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=5+-2=3$
At $\mathrm{C}(8,2) \quad \mathrm{T}=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\text {min }}=\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=8
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }= \\
& \mathrm{T}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \quad \mathrm{T}=5+-2=3$
At $\mathrm{C}(8,2) \quad \mathrm{T}=8+$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\min }=-\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=8+4
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }= \\
& \mathrm{T}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}$
$\operatorname{At} \mathrm{B}(5,-1) \quad \mathrm{T}=5+-2=3$
At $\mathrm{C}(8,2) \quad \mathrm{T}=8+4=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }= \\
& \mathrm{T}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=8+4=\mathbf{1 2}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4

The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=-\quad \text { at } \\
& \mathrm{T}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}
$$

$$
\text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3}
$$

$$
\operatorname{At~} \mathrm{C}(8,2) \quad \Longrightarrow \mathrm{T}=8+4=\mathbf{1 2}
$$

At $\mathrm{D}(5,8)$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }= \\
& \mathrm{T}_{\text {min }}=
\end{aligned} \text { at }
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\text {min }}=\square
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\text {min }}=\square
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5+
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }= \\
& \mathrm{T}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5+16
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\text {min }}=\square
\end{aligned}
$$

$\qquad$
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3}$
At $\mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8+4=\mathbf{1 2}$
At $\mathrm{D}(5,8) \longrightarrow \mathrm{T}=5+16=$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }=\square \\
& \mathrm{T}_{\text {min }}=\square
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \Longrightarrow \mathrm{T}=5+16=\mathbf{2 1}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }= \\
& \mathrm{T}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$
At $\mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}$
At $\mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3}$
At $\mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8+4=\mathbf{1 2}$
At $\mathrm{D}(5,8) \Longrightarrow \mathrm{T}=5+16=\mathbf{2 1}$

At E(-1,5)

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }= \\
& \mathrm{T}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5+16=\mathbf{2 1} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }= \\
& \mathrm{T}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5+16=\mathbf{2 1} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-1
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }= \\
& \mathrm{T}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5+16=\mathbf{2 1} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-1+
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }= \\
& \mathrm{T}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5+16=\mathbf{2 1} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-1+10
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }= \\
& \mathrm{T}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5+16=\mathbf{2 1} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-1+10=
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\begin{aligned}
& 4 . \quad \mathrm{T}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~T}_{\max }= \\
& \mathrm{T}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5+16=\mathbf{2 1} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-1+10=\mathbf{9}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.


## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

| 4. $T=x+2 y$ |  |
| :---: | :---: |
| $\mathrm{T}_{\text {max }}=$ | at |
| $\mathrm{T}_{\text {min }}$ | at |
| At A(-1,0) | $\mathrm{T}=-1+0=\mathbf{- 1}$ |
| At B(5,-1) | $\mathrm{T}=5+-2=3$ |
| At C(8,2) | $\mathrm{T}=8+4=\mathbf{1 2}$ |
| At $\mathrm{D}(5,8)$ | $\mathrm{T}=5+16=\mathbf{2 1}$ |
| At E (-1,5) | $\mathrm{T}=-1+10=9$ |

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.


## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
4. $T=x+2 y$

| $\mathrm{T}_{\text {max }}=$ | at $\quad$ (5,8) |
| :--- | :--- |
| $\mathrm{T}_{\text {min }}=$ | at |

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \longmapsto \mathrm{T}=8+4=\mathbf{1 2}
\end{aligned}
$$

$$
\text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5+16=\mathbf{2 1}
$$

$$
\text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-1+10=\mathbf{9}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\text { 4. } T=x+2 y
$$

$$
\begin{array}{ll}
\mathrm{T}_{\max }=\underline{21} & \text { at } \ldots(5,8)  \tag{5,8}\\
\mathrm{T}_{\min }= & \text { at } \longrightarrow
\end{array}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5+16=\mathbf{2 1} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-1+10=\mathbf{9}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.

$$
\text { 4. } T=x+2 y
$$

$$
\begin{array}{ll}
\mathrm{T}_{\max }=\ldots \mathbf{2 1} \text { at } \quad \text { at } \mathbf{( 5 , 8 )} \\
\mathrm{T}_{\min }= & \text { at }
\end{array}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5+16=\mathbf{2 1} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-1+10=\mathbf{9}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.

$$
\text { 4. } T=x+2 y
$$

$$
\begin{array}{ll}
\mathrm{T}_{\max }=\underline{21} \quad \text { at } \quad(5,8) \\
\mathrm{T}_{\min }= & \text { at }
\end{array}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5+16=\mathbf{2 1} \\
& \text { At } \mathrm{E}(-1,5) \longmapsto \mathrm{T}=-1+10=\mathbf{9}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.

$$
\text { 4. } T=x+2 y
$$

$$
\begin{array}{ll}
\mathrm{T}_{\max }=\underline{21} \text { at } \underline{(5,8)} \\
\mathrm{T}_{\min }=-1 & \text { at }
\end{array}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \longmapsto \mathrm{T}=5+16=\mathbf{2 1} \\
& \text { At } \mathrm{E}(-1,5) \longmapsto \mathrm{T}=-1+10=\mathbf{9}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of T will occur at a vertex of the region.

$$
\text { 4. } T=x+2 y
$$

$$
\begin{array}{ll}
\mathrm{T}_{\max }=\underline{21} \text { at }-(5,8) \\
\mathrm{T}_{\min }=-\mathbf{1} & \text { at } \frac{(-1,0)}{}
\end{array}
$$

$$
\text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1}
$$

$$
\text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3}
$$

$$
\text { At C }(8,2) \Longleftrightarrow \mathrm{T}=8+4=\mathbf{1 2}
$$

$$
\operatorname{At} \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5+16=\mathbf{2 1}
$$

$$
\text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-1+10=\mathbf{9}
$$

## Algebra II Class Worksheet \#4 Unit 4



The maximum and the minimum values of T will occur at a vertex of the region.
4. $T=x+2 y$

$$
\begin{aligned}
& \mathrm{T}_{\max }=-21 \quad \text { at } \frac{(5,8)}{} \\
& \mathrm{T}_{\min }=-\mathbf{1} \text { at } \frac{(-1,0)}{}
\end{aligned}
$$

$$
\begin{aligned}
& \text { At } \mathrm{A}(-1,0) \Longleftrightarrow \mathrm{T}=-1+0=\mathbf{- 1} \\
& \text { At } \mathrm{B}(5,-1) \Longleftrightarrow \mathrm{T}=5+-2=\mathbf{3} \\
& \text { At } \mathrm{C}(8,2) \Longleftrightarrow \mathrm{T}=8+4=\mathbf{1 2} \\
& \text { At } \mathrm{D}(5,8) \Longleftrightarrow \mathrm{T}=5+16=\mathbf{2 1} \\
& \text { At } \mathrm{E}(-1,5) \Longleftrightarrow \mathrm{T}=-1+10=\mathbf{9}
\end{aligned}
$$

## Algebra II Class Worksheet \#4 Unit 4

Next, you are given a system of constraints and several objective functions. Graph the system and find the indicated maximum and minimum value of the functions and the vertex at which each occurs.

Algebra II Class Worksheet \#4 Unit 4

Questions 5-8

$$
\begin{gathered}
x+3 \geq 0 \\
x+y \geq 0 \\
2 x-3 y \leq 15 \\
2 x+3 y \leq 36 \\
x-3 y \geq-27
\end{gathered}
$$



Algebra II Class Worksheet \#4 Unit 4

$$
\begin{aligned}
& \text { Questions 5-8 } \\
& \begin{array}{l}
x+3 \geq 0 \quad \square x \geq-3 \\
x+y \geq 0 \\
2 x-3 y \leq 15 \\
2 x+3 y \leq 36 \\
x-3 y \geq-27
\end{array}
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4

$$
\begin{aligned}
& \text { Questions 5-8 } \\
& \begin{array}{l}
x+3 \geq 0 \quad \square x \geq-3 \\
x+y \geq 0 \\
2 x-3 y \leq 15 \\
2 x+3 y \leq 36 \\
x-3 y \geq-27
\end{array}
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4

$$
\begin{aligned}
& \text { Questions 5-8 } \\
& \begin{array}{l}
x+3 \geq 0 \quad \\
x+y \geq 0 \\
2 x-3 y \leq 15 \\
2 x+3 y \leq 36 \\
x-3 y \geq-27
\end{array} \\
& \begin{array}{l}
x
\end{array} \\
&
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4

Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \Rightarrow \quad x \geq-3 \\
& \mathbf{x}+\mathrm{y} \geq \mathbf{0} \Rightarrow \mathrm{y} \geq-\mathrm{x} \\
& 2 \mathrm{x}-3 \mathrm{y} \leq 15 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq 36 \\
& x-3 y \geq-27
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4

Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \\
& x+y \geq 0 \\
& 2 x-3 y \leq 15 \\
& 2 x+3 y \leq 36 \\
& \\
& x-3 y \geq-27
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4

Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \\
& x+y \geq 0 \\
& 2 x-3 y \leq 15 \\
& 2 x+3 y \leq 36 \\
& \\
& x-3 y \geq-27
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4

Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \Rightarrow \quad x \geq-3 \\
& \mathbf{x}+\mathrm{y} \geq \mathbf{0} \Rightarrow \mathrm{y} \geq-\mathrm{x} \\
& 2 \mathrm{x}-3 \mathrm{y} \leq 15 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq 36 \\
& x-3 y \geq-27
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \\
& x+y \geq 0 \\
& 2 x-3 y \leq 15 \Rightarrow y \geq-3 \\
& 2 x+3 y \leq 36 \\
& 2 x-3 y \geq-27
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \\
& x+y \geq 0 \\
& 2 x-3 y \leq 15 \Rightarrow y \geq-3 \\
& 2 x+3 y \leq 36 \\
& 2 x-3 y \geq-27
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \Rightarrow \quad x \geq-3 \\
& \mathbf{x}+\mathrm{y} \geq \mathbf{0} \quad \square \mathrm{y} \geq-\mathrm{x} \\
& 2 \mathrm{x}-3 \mathrm{y} \leq 15 \Rightarrow \mathrm{y} \geq \frac{2}{3} \mathrm{x}-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq 36 \\
& x-3 y \geq-27
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \Rightarrow \quad x \geq-3 \\
& \mathbf{x}+\mathrm{y} \geq \mathbf{0} \quad \square \mathrm{y} \geq-\mathrm{x} \\
& 2 \mathrm{x}-3 \mathrm{y} \leq 15 \Rightarrow \mathrm{y} \geq \frac{2}{3} \mathrm{x}-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq 36 \\
& x-3 y \geq-27
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \sqsupset \quad x \geq-3 \\
& x+y \geq 0 \\
& 2 x-3 y \leq 15 \Rightarrow y \geq-x \\
& 2 x+3 y \leq 36 \leadsto y \leq \frac{2}{3} x-5 \\
& x-3 y \geq-27
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \sqsupset \quad x \geq-3 \\
& x+y \geq 0 \\
& 2 x-3 y \leq 15 \Rightarrow y \geq-x \\
& 2 x+3 y \leq 36 \Rightarrow y \leq \frac{2}{3} x-5 \\
& x-3 y \geq-27
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \Rightarrow x \geq-3 \\
& \mathrm{x}+\mathrm{y} \geq 0 \Rightarrow \mathrm{y} \geq-\mathrm{x} \\
& 2 \mathrm{x}-3 \mathrm{y} \leq 15 \Rightarrow \mathrm{y} \geq \frac{2}{3} \mathrm{x}-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq 36 \Rightarrow \mathrm{y} \leq \frac{-2}{3} \mathrm{x}+12 \\
& x-3 y \geq-27
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \Rightarrow x \geq-3 \\
& \mathrm{x}+\mathrm{y} \geq 0 \Rightarrow \mathrm{y} \geq-\mathrm{x} \\
& 2 x-3 y \leq 15 \Rightarrow y \geq \frac{2}{3} x-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq 36 \Rightarrow \mathrm{y} \leq \frac{-2}{3} \mathrm{x}+12 \\
& x-3 y \geq-27
\end{aligned}
$$



## Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \Rightarrow \quad x \geq-3 \\
& \mathbf{x}+\mathrm{y} \geq \mathbf{0} \quad \square \mathrm{y} \geq-\mathbf{x} \\
& 2 \mathrm{x}-3 \mathrm{y} \leq 15 \Rightarrow \mathrm{y} \geq \frac{2}{3} \mathrm{x}-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq \mathbf{3 6} \Rightarrow \mathrm{y} \leq \frac{-2}{3} \mathrm{x}+12 \\
& x-3 y \geq-27 \Rightarrow y \leq \frac{1}{3} x+9
\end{aligned}
$$



## Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \Rightarrow \quad x \geq-3 \\
& \mathbf{x}+\mathrm{y} \geq \mathbf{0} \quad \square \mathrm{y} \geq-\mathbf{x} \\
& 2 \mathrm{x}-3 \mathrm{y} \leq 15 \Rightarrow \mathrm{y} \geq \frac{2}{3} \mathrm{x}-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq \mathbf{3 6} \Rightarrow \mathrm{y} \leq \frac{-2}{3} \mathrm{x}+12 \\
& x-3 y \geq-27 \Rightarrow y \leq \frac{1}{3} x+9
\end{aligned}
$$



## Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \square \quad x \geq-3 \\
& \mathbf{x}+\mathrm{y} \geq \mathbf{0} \quad \square \mathrm{y} \geq-\mathbf{x} \\
& 2 \mathrm{x}-3 \mathrm{y} \leq 15 \Rightarrow \mathrm{y} \geq \frac{2}{3} \mathrm{x}-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq \mathbf{3 6} \Rightarrow \mathrm{y} \leq \frac{-2}{3} \mathrm{x}+12 \\
& x-3 y \geq-27 \Rightarrow y \leq \frac{1}{3} x+9
\end{aligned}
$$



## Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \square \quad x \geq-3 \\
& \mathbf{x}+\mathrm{y} \geq \mathbf{0} \quad \square \mathrm{y} \geq-\mathbf{x} \\
& 2 \mathrm{x}-3 \mathrm{y} \leq 15 \Rightarrow \mathrm{y} \geq \frac{2}{3} \mathrm{x}-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq \mathbf{3 6} \Rightarrow \mathrm{y} \leq \frac{-2}{3} \mathrm{x}+12 \\
& x-3 y \geq-27 \Rightarrow y \leq \frac{1}{3} x+9
\end{aligned}
$$



## Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \square \quad x \geq-3 \\
& \mathbf{x}+\mathrm{y} \geq \mathbf{0} \quad \square \mathrm{y} \geq-\mathbf{x} \\
& 2 x-3 y \leq 15 \Rightarrow y \geq \frac{2}{3} x-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq \mathbf{3 6} \Rightarrow \mathrm{y} \leq \frac{-2}{3} \mathrm{x}+12 \\
& x-3 y \geq-27 \Rightarrow y \leq \frac{1}{3} x+9
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4
Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \Rightarrow x \geq-3 \\
& x+y \geq 0 \Rightarrow y \geq-x \\
& 2 \mathrm{x}-3 \mathrm{y} \leq 15 \Rightarrow \mathrm{y} \geq \frac{2}{3} \mathrm{x}-5 \\
& \mathbf{2 x}+\mathbf{3 y} \leq \mathbf{3 6} \Rightarrow \mathrm{y} \leq \frac{-2}{3} \mathrm{x}+\mathbf{1 2} \\
& \mathbf{x}-3 \mathrm{y} \geq-27 \Longrightarrow \mathrm{y} \leq \frac{1}{3} \mathrm{x}+9
\end{aligned}
$$



We need to find the coordinates of this vertex.

Algebra II Class Worksheet \#4 Unit 4
Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \Rightarrow x \geq-3 \\
& x+y \geq 0 \Rightarrow y \geq-x \\
& 2 x-3 y \leq 15 \\
& 2 x+3 y \leq 36 \\
& x y \geq \frac{2}{3} x-5 \\
& x-3 y \geq-27 \Rightarrow y \leq \frac{-2}{3} x+12 \\
& \hline y+9
\end{aligned}
$$



We need to find the coordinates of this vertex.
It is the intersection of these two lines.

Algebra II Class Worksheet \#4 Unit 4
Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \Rightarrow x \geq-3 \\
& \mathbf{x}+\mathrm{y} \geq 0 \Rightarrow \mathrm{y} \geq-\mathbf{x} \\
& 2 \mathrm{x}-3 \mathrm{y} \leq 15 \Rightarrow \mathrm{y} \geq \frac{2}{3} \mathrm{x}-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq \mathbf{3 6} \Rightarrow \mathrm{y} \leq \frac{-2}{3} \mathrm{x}+12 \\
& \mathbf{x - 3 y} \geq-27 \Longrightarrow \mathrm{y} \leq \frac{1}{3} \mathrm{x}+9 \\
& 2 x-3 y=15 \\
& 2 x+3 y=36
\end{aligned}
$$



We need to find the coordinates of this vertex.
It is the intersection of these two lines.

Algebra II Class Worksheet \#4 Unit 4
Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \square \quad x \geq-3 \\
& x+y \geq 0 \quad \Rightarrow \quad y \geq-x \\
& 2 x-3 y \leq 15 \Rightarrow y \geq \frac{2}{3} x-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq \mathbf{3 6} \square \mathrm{y} \leq \frac{-2}{3} \mathrm{x}+12 \\
& x-3 y \geq-27 \Rightarrow y \leq \frac{1}{3} x+9 \\
& 2 x-3 y=15 \\
& 2 x+3 y=36 \\
& 4 \mathrm{x}=51
\end{aligned}
$$



We need to find the coordinates of this vertex.
It is the intersection of these two lines.

Algebra II Class Worksheet \#4 Unit 4
Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \square \quad x \geq-3 \\
& \mathbf{x}+\mathrm{y} \geq \mathbf{0} \quad \square \mathrm{y} \geq-\mathbf{x} \\
& 2 x-3 y \leq 15 \Rightarrow y \geq \frac{2}{3} x-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq \mathbf{3 6} \square \mathrm{y} \leq \frac{-2}{3} \mathrm{x}+12 \\
& x-3 y \geq-27 \Rightarrow y \leq \frac{1}{3} x+9 \\
& 2 x-3 y=15 \\
& 2 x+3 y=36 \\
& 4 \mathrm{x}=51 \\
& \mathbf{x}=\mathbf{1 2 . 7 5}
\end{aligned}
$$



We need to find the coordinates of this vertex.
It is the intersection of these two lines.

Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \square \quad x \geq-3 \\
& \mathbf{x}+\mathbf{y} \geq \mathbf{0} \quad \Rightarrow \mathrm{y} \geq-\mathbf{x} \\
& 2 \mathrm{x}-3 \mathrm{y} \leq 15 \Rightarrow \mathrm{y} \geq \frac{2}{3} \mathrm{x}-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq 36 \breve{\mathrm{y}} \leq \frac{-2}{3} \mathrm{x}+12 \\
& x-3 y \geq-27 \Longrightarrow y \leq \frac{1}{3} x+9 \\
& 2 x-3 y=15 \quad-2 x+3 y=-15 \\
& 2 x+3 y=36 \quad 2 x+3 y=36 \\
& 4 \mathrm{x}=51 \\
& \mathbf{x}=\mathbf{1 2 . 7 5}
\end{aligned}
$$



We need to find the coordinates of this vertex.
It is the intersection of these two lines.

Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \square \quad x \geq-3 \\
& \mathbf{x}+\mathbf{y} \geq \mathbf{0} \quad \Rightarrow \mathrm{y} \geq-\mathbf{x} \\
& 2 \mathrm{x}-3 \mathrm{y} \leq 15 \Rightarrow \mathrm{y} \geq \frac{2}{3} \mathrm{x}-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq \mathbf{3 6} \square \mathrm{y} \leq \frac{-2}{3} \mathrm{x}+12 \\
& x-3 y \geq-27 \Rightarrow y \leq \frac{1}{3} x+9 \\
& 2 x-3 y=15 \quad-2 x+3 y=-15 \\
& 2 x+3 y=36 \quad 2 x+3 y=36 \\
& 4 x=51 \quad 6 y=21 \\
& \mathbf{x}=\mathbf{1 2 . 7 5}
\end{aligned}
$$



We need to find the coordinates of this vertex.
It is the intersection of these two lines.

Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \square \quad x \geq-3 \\
& \mathbf{x}+\mathbf{y} \geq \mathbf{0} \quad \Rightarrow \mathrm{y} \geq-\mathbf{x} \\
& 2 \mathrm{x}-3 \mathrm{y} \leq 15 \Rightarrow \mathrm{y} \geq \frac{2}{3} \mathrm{x}-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq 36 \breve{\mathrm{y}} \leq \frac{-2}{3} \mathrm{x}+12 \\
& x-3 y \geq-27 \Rightarrow y \leq \frac{1}{3} x+9 \\
& 2 x-3 y=15 \quad-2 x+3 y=-15 \\
& 2 x+3 y=36 \quad 2 x+3 y=36 \\
& 4 x=51 \quad 6 y=21 \\
& \mathbf{x}=12.75 \quad y=3.5
\end{aligned}
$$



We need to find the coordinates of this vertex.
It is the intersection of these two lines.

## Algebra II Class Worksheet \#4 Unit 4

## Questions 5-8

$$
\begin{aligned}
& x+3 \geq 0 \quad \square \quad x \geq-3 \\
& \mathbf{x}+\mathbf{y} \geq \mathbf{0} \quad \Rightarrow \mathrm{y} \geq-\mathbf{x} \\
& 2 \mathrm{x}-3 \mathrm{y} \leq 15 \Rightarrow \mathrm{y} \geq \frac{2}{3} \mathrm{x}-5 \\
& 2 \mathrm{x}+3 \mathrm{y} \leq \mathbf{3 6} \Rightarrow \mathrm{y} \leq \frac{-2}{3} \mathrm{x}+12 \\
& x-3 y \geq-27 \Rightarrow y \leq \frac{1}{3} x+9 \\
& 2 x-3 y=15 \quad-2 x+3 y=-15 \\
& 2 x+3 y=36 \quad 2 x+3 y=36 \\
& 4 x=51 \quad 6 y=21 \\
& \mathbf{x}=\mathbf{1 2 . 7 5} \\
& \mathrm{y}=3.5
\end{aligned}
$$



Algebra II Class Worksheet \#4 Unit 4

5. $F=x+2 y$
$\mathrm{F}_{\text {max }}=$
at
at

Algebra II Class Worksheet \#4 Unit 4


$$
\text { 5. } \mathrm{F}=\mathrm{x}+2 \mathrm{y}
$$

$$
F_{\text {max }}=
$$

at
$\qquad$

$$
\mathrm{F}_{\min }=
$$ at

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\mathrm{F}_{\max }=\ldots \text { at }
$$

$\qquad$

$$
\mathrm{F}_{\min }=\ldots \quad \text { at }
$$

$\qquad$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{array}{ll}
\mathrm{F}_{\text {max }}= & \text { at } \\
\mathrm{F}_{\text {min }}= & \text { at }
\end{array}
$$

$\qquad$

At $(3,10)$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{array}{ll}
\mathrm{F}_{\max }= & \text { at } \\
\mathrm{F}_{\text {min }}= & \text { at }
\end{array}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \mathrm{F}=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{array}{ll}
\mathrm{F}_{\max }= & \text { at } \\
\mathrm{F}_{\text {min }}= & \text { at }
\end{array}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow F=3
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{array}{ll}
\mathrm{F}_{\max }= & \text { at } \\
\mathrm{F}_{\text {min }}= & \text { at }
\end{array}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\mathrm{F}_{\max }=\ldots \quad \text { at }
$$

$\qquad$

$$
\mathrm{F}_{\text {min }}=\ldots \text { at }
$$

$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=3+20
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\mathrm{F}_{\max }=\ldots \quad \text { at }
$$

$\qquad$

$$
\mathrm{F}_{\text {min }}=\ldots \text { at }
$$

$\qquad$
At $(3,10) \Longrightarrow \mathrm{F}=3+20=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\mathrm{F}_{\max }=\ldots \text { at }
$$

$\qquad$

$$
\mathrm{F}_{\text {min }}=\ldots \text { at }
$$

$\qquad$
At $(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{aligned}
\mathrm{F}_{\text {max }} & = \\
\mathrm{F}_{\text {min }} & =\square
\end{aligned} \begin{aligned}
& \text { at } \\
&
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\text { At }(-3,8)
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{array}{cl}
\mathrm{F}_{\max }= & \text { at } \\
\mathrm{F}_{\text {min }}= & \text { at }
\end{array}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$
At $(-3,8) \quad \Longrightarrow \mathrm{F}=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{array}{cl}
\mathrm{F}_{\max }= & \text { at } \\
\mathrm{F}_{\text {min }}= & \text { at }
\end{array}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-3
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{aligned}
\mathrm{F}_{\max } & = \\
\mathrm{F}_{\text {min }} & =\square
\end{aligned} \begin{aligned}
& \text { at } \\
& \text { at }
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\text { At }(-3,8) \Longrightarrow \mathrm{F}=-3+
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{aligned}
\mathrm{F}_{\max } & = \\
\mathrm{F}_{\text {min }} & =\square
\end{aligned} \begin{aligned}
& \text { at } \\
& \text { at }
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\text { At }(-3,8) \Longrightarrow \mathrm{F}=-3+16
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{aligned}
\mathrm{F}_{\max } & = \\
\mathrm{F}_{\text {min }} & =\square
\end{aligned} \begin{aligned}
& \text { at } \\
& \text { at }
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\operatorname{At}(-3,8) \Longrightarrow \mathrm{F}=-3+16=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{aligned}
\mathrm{F}_{\max } & = \\
\mathrm{F}_{\text {min }} & =\square
\end{aligned} \begin{aligned}
& \text { at } \\
& \text { at }
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\text { At }(-3,8) \Longleftrightarrow F=-3+16=\mathbf{1 3}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{aligned}
\mathrm{F}_{\max } & = \\
\mathrm{F}_{\text {min }} & =\square
\end{aligned} \begin{aligned}
& \text { at } \\
&
\end{aligned}
$$

$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$
At $(-3,8) \quad \mathrm{F}=-3+16=\mathbf{1 3}$
At $(-3,3) \quad \longrightarrow$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{aligned}
\mathrm{F}_{\max } & = \\
\mathrm{F}_{\text {min }} & =\square
\end{aligned} \begin{aligned}
& \text { at } \\
&
\end{aligned}
$$

$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$
At $(-3,8) \quad \mathrm{F}=-3+16=\mathbf{1 3}$
At $(-3,3) \quad \mathrm{F}=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{array}{cl}
\mathrm{F}_{\text {max }} & = \\
\mathrm{F}_{\text {min }} & =\square
\end{array}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$
At $(-3,8) \quad \mathrm{F}=-3+16=\mathbf{1 3}$
At $(-3,3) \quad \mathrm{F}=-3$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{array}{cl}
\mathrm{F}_{\max }= & \text { at } \\
\mathrm{F}_{\text {min }} & =\square
\end{array}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$
At $(-3,8) \quad \mathrm{F}=-3+16=\mathbf{1 3}$
At $(-3,3) \Longleftrightarrow \mathrm{F}=-3+$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{aligned}
\mathrm{F}_{\max } & = \\
\mathrm{F}_{\text {min }} & =\square
\end{aligned} \begin{aligned}
& \text { at } \\
&
\end{aligned}
$$

$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$
At $(-3,8) \quad \mathrm{F}=-3+16=\mathbf{1 3}$
$\operatorname{At}(-3,3) \quad \mathrm{F}=-3+6$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{aligned}
& \mathrm{F}_{\text {max }}= \\
& \mathrm{F}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\text { At }(-3,8) \Longleftrightarrow F=-3+16=\mathbf{1 3}
$$

$$
\text { At }(-3,3) \Longleftrightarrow \mathrm{F}=-3+6=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{aligned}
\mathrm{F}_{\max } & = \\
\mathrm{F}_{\text {min }} & =\square
\end{aligned} \begin{aligned}
& \text { at } \\
&
\end{aligned}
$$

$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$
At $(-3,8) \quad \mathrm{F}=-3+16=\mathbf{1 3}$
At $(-3,3) \quad \mathrm{F}=-3+6=3$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\mathrm{F}_{\max }=\ldots \text { at }
$$

$\qquad$

$$
\mathrm{F}_{\text {min }}=\ldots \text { at }
$$

$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$
At $(-3,8) \quad \mathrm{F}=-3+16=\mathbf{1 3}$
At $(-3,3) \longmapsto \mathrm{F}=-3+6=3$
At $(3,-3)$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\mathrm{F}_{\max }=\ldots \text { at }
$$

$\qquad$

$$
\mathrm{F}_{\text {min }}=\ldots \text { at }
$$

$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$
At $(-3,8) \quad \mathrm{F}=-3+16=\mathbf{1 3}$
At $(-3,3) \quad \mathrm{F}=-3+6=3$
At $(3,-3) \quad \Longrightarrow \mathrm{F}=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{aligned}
& \mathrm{F}_{\text {max }}= \\
& \mathrm{F}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$
At $(-3,8) \quad \mathrm{F}=-3+16=\mathbf{1 3}$
At $(-3,3) \Longleftrightarrow \mathrm{F}=-3+6=3$
$\operatorname{At}(3,-3) \quad \Longrightarrow \mathrm{F}=3$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\mathrm{F}_{\max }=\ldots \text { at }
$$

$\qquad$

$$
\mathrm{F}_{\text {min }}=\ldots \text { at }
$$

$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$
At $(-3,8) \quad \mathrm{F}=-3+16=\mathbf{1 3}$
At $(-3,3) \quad \mathrm{F}=-3+6=3$
At $(3,-3) \quad \mathrm{F}=3+$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{aligned}
& \mathrm{F}_{\text {max }}= \\
& \mathrm{F}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\operatorname{At}(-3,8) \Longrightarrow \mathrm{F}=-3+16=\mathbf{1 3}
$$

$$
\operatorname{At}(-3,3) \Longrightarrow \mathrm{F}=-3+6=\mathbf{3}
$$

$$
\operatorname{At}(3,-3) \quad \Longrightarrow \mathrm{F}=3+-6
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\mathrm{F}_{\max }=\ldots \text { at }
$$

$\qquad$

$$
\mathrm{F}_{\text {min }}=\ldots \text { at }
$$

$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$
At $(-3,8) \quad \mathrm{F}=-3+16=\mathbf{1 3}$
At $(-3,3) \quad \mathrm{F}=-3+6=\mathbf{3}$
At $(3,-3) \quad \mathrm{F}=3+-6=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{aligned}
& \mathrm{F}_{\text {max }}= \\
& \mathrm{F}_{\text {min }}= \\
& \text { at } \\
& \text { at }
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\operatorname{At}(-3,8) \Longrightarrow \mathrm{F}=-3+16=\mathbf{1 3}
$$

$$
\operatorname{At}(-3,3) \Longrightarrow \mathrm{F}=-3+6=\mathbf{3}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=3+-6=-\mathbf{3}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 5. } \mathrm{F}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~F}_{\max }=\_ \text {at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\text { At }(-3,8) \Longleftrightarrow F=-3+16=\mathbf{1 3}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow F=-3+6=\mathbf{3}
$$

$$
\text { At }(3,-3) \Longleftrightarrow \mathrm{F}=3+-6=\mathbf{- 3}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 5. } \mathrm{F}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~F}_{\max }=\_ \text {at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\text { At }(-3,8) \Longleftrightarrow F=-3+16=\mathbf{1 3}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow F=-3+6=\mathbf{3}
$$

$$
\text { At }(3,-3) \Longleftrightarrow \mathrm{F}=3+-6=\mathbf{- 3}
$$

$$
\operatorname{At}(12.75,3.5) \Longrightarrow \mathrm{F}=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 5. } \mathrm{F}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~F}_{\max }=\_ \text {at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\text { At }(-3,8) \Longleftrightarrow F=-3+16=\mathbf{1 3}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow F=-3+6=\mathbf{3}
$$

$$
\text { At }(3,-3) \quad \mathrm{F}=3+-6=\mathbf{- 3}
$$

$$
\operatorname{At}(12.75,3.5) \Longleftrightarrow \mathrm{F}=12.75
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 5. } \mathrm{F}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~F}_{\max }=\_ \text {at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\text { At }(-3,8) \Longleftrightarrow F=-3+16=\mathbf{1 3}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow F=-3+6=\mathbf{3}
$$

$$
\text { At }(3,-3) \quad \mathrm{F}=3+-6=\mathbf{- 3}
$$

$$
\operatorname{At}(12.75,3.5) \Longleftrightarrow \mathrm{F}=12.75+
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 5. } \mathrm{F}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~F}_{\max }=\_ \text {at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\text { At }(-3,8) \Longleftrightarrow F=-3+16=\mathbf{1 3}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow F=-3+6=\mathbf{3}
$$

$$
\text { At }(3,-3) \quad \mathrm{F}=3+-6=\mathbf{- 3}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=12.75+7
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 5. } \mathrm{F}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\text { At }(-3,8) \Longleftrightarrow F=-3+16=\mathbf{1 3}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow F=-3+6=\mathbf{3}
$$

$$
\text { At }(3,-3) \quad \mathrm{F}=3+-6=\mathbf{- 3}
$$

$$
\operatorname{At}(12.75,3.5) \leftrightharpoons \mathrm{F}=12.75+7=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 5. } \mathrm{F}=\mathrm{x}+2 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\text { At }(-3,8) \Longleftrightarrow F=-3+16=\mathbf{1 3}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow F=-3+6=\mathbf{3}
$$

$$
\text { At }(3,-3) \quad \mathrm{F}=3+-6=\mathbf{- 3}
$$

$$
\operatorname{At}(12.75,3.5) \Longleftrightarrow \mathrm{F}=12.75+7=\mathbf{1 9 . 7 5}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\mathrm{F}_{\text {max }}=\ldots \text { at }
$$

$$
\mathrm{F}_{\text {min }}=\ldots \text { at }
$$


$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$
At $(-3,8) \quad \mathrm{F}=-3+16=\mathbf{1 3}$
At $(-3,3) \quad \Longrightarrow \mathrm{F}=-3+6=\mathbf{3}$
At $(3,-3) \quad \mathrm{F}=3+-6=\mathbf{- 3}$
$\operatorname{At}(12.75,3.5) \Longleftrightarrow \mathrm{F}=12.75+7=\mathbf{1 9 . 7 5}$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.
5. $F=x+2 y$

$$
\begin{aligned}
& \mathrm{F}_{\text {max }}= \\
& \mathrm{F}_{\text {min }}= \\
& \text { at }
\end{aligned}
$$

$$
\begin{aligned}
& \text { At }(3,10) \Longleftrightarrow \mathrm{F}=3+20=\mathbf{2 3} \\
& \text { At }(-3,8) \longmapsto \mathrm{F}=-3+16=\mathbf{1 3} \\
& \text { At }(-3,3) \longmapsto \mathrm{F}=-3+6=\mathbf{3} \\
& \text { At }(3,-3) \longmapsto \mathrm{F}=3+-6=\mathbf{- 3} \\
& 2.75,3.5) \Longleftrightarrow \mathrm{F}=12.75+7=\mathbf{1 9 . 7 5}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\mathrm{F}_{\text {max }}=\underline{23} \text { at }
$$

$$
\mathrm{F}_{\min }=\ldots \text { at }
$$

| At ( 3,10 ) | $\Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$ |
| :---: | :---: |
| At (-3,8) | $\Longrightarrow \mathrm{F}=-3+16=\mathbf{1 3}$ |
| At (-3,3) | $\Rightarrow \mathrm{F}=-3+6=3$ |
| At (3,-3) | $\Longrightarrow \mathrm{F}=3+-6=\mathbf{- 3}$ |
| (2.75,3.5) | $\mathrm{F}=12.75+7=\mathbf{1 9 . 7 5}$ |

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\mathrm{F}_{\max }=\underline{23} \text { at }
$$

$$
\mathrm{F}_{\min }=\ldots \text { at }
$$

$\qquad$

| At $(3,10)$ | $\Longrightarrow \mathrm{F}=3+20=\mathbf{2 3}$ |
| :---: | :---: |
| At (-3,8) | $\Longleftrightarrow \mathrm{F}=-3+16=13$ |
| At (-3,3) | $\Longleftrightarrow \mathrm{F}=-3+6=3$ |
| At (3,-3) | $\Rightarrow \mathrm{F}=3+-6=-3$ |
| . $75,3.5) \longmapsto$ | $\mathrm{F}=12.75+7=\mathbf{1 9 . 7 5}$ |

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{aligned}
\mathrm{F}_{\max } & =2 \mathbf{2 3} \\
\mathrm{~F}_{\text {min }} & \text { at } \quad \text { at } \quad \text { 3,10 }
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\text { At }(-3,8) \Longleftrightarrow F=-3+16=\mathbf{1 3}
$$

$$
\text { At }(-3,3) \Longleftrightarrow F=-3+6=\mathbf{3}
$$

$$
\text { At }(3,-3) \quad \mathrm{F}=3+-6=\mathbf{- 3}
$$

$$
\operatorname{At}(12.75,3.5) \Longleftrightarrow \mathrm{F}=12.75+7=\mathbf{1 9 . 7 5}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 5. } F=x+2 y
$$

$$
\begin{array}{ll}
\left.\mathrm{F}_{\max }=\ldots \mathbf{2 3} \text { at } \quad \text { at } \quad 3,10\right) \\
\mathrm{F}_{\min }= &
\end{array}
$$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\text { At }(-3,8) \Longleftrightarrow F=-3+16=\mathbf{1 3}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-3+6=\mathbf{3}
$$

$$
\operatorname{At}(3,-3) \quad \Longrightarrow \mathrm{F}=3+-6=\mathbf{- 3}
$$

$$
\operatorname{At}(12.75,3.5) \Longleftrightarrow \mathrm{F}=12.75+7=\mathbf{1 9 . 7 5}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\operatorname{At}(12.75,3.5) \Longleftrightarrow \mathrm{F}=12.75+7=\mathbf{1 9 . 7 5}
$$

$$
\begin{aligned}
& \text { 5. } F=x+2 y \\
& \mathrm{~F}_{\text {max }}=\underline{\mathbf{2 3}} \text { at } \underline{(\mathbf{3}, \mathbf{1 0})} \\
& \mathrm{F}_{\text {min }}=\ldots \text { at } \\
& \operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3} \\
& \text { At }(-3,8) \quad \mathrm{F}=-3+16=\mathbf{1 3} \\
& \text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-3+6=\mathbf{3} \\
& \text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=3+-6=\mathbf{- 3}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\operatorname{At}(12.75,3.5) \Longleftrightarrow \mathrm{F}=12.75+7=\mathbf{1 9 . 7 5}
$$

$$
\begin{aligned}
& \text { 5. } F=x+2 y \\
& \mathrm{~F}_{\text {max }}=\underline{\mathbf{2 3}} \text { at } \underline{(\mathbf{3}, \mathbf{1 0})} \\
& \mathrm{F}_{\text {min }}=-3 \text { at } \\
& \operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3} \\
& \text { At }(-3,8) \quad \mathrm{F}=-3+16=\mathbf{1 3} \\
& \text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-3+6=\mathbf{3} \\
& \text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=3+-6=\mathbf{- 3}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=12.75+7=\mathbf{1 9 . 7 5}
$$

$$
\begin{aligned}
& \text { 5. } F=x+2 y \\
& \mathrm{~F}_{\max }=\underline{\mathbf{2 3}} \text { at } \underline{(3,10)} \\
& \mathrm{F}_{\text {min }}=-3 \text { at }(3,-3) \\
& \operatorname{At}(3,10) \Longrightarrow \mathrm{F}=3+20=\mathbf{2 3} \\
& \text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-3+16=\mathbf{1 3} \\
& \text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-3+6=\mathbf{3} \\
& \text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=3+-6=\mathbf{- 3}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.
5. $F=x+2 y$

$$
\begin{aligned}
F_{\max } & =23 \\
F_{\min } & =-3
\end{aligned} \text { at } \frac{(3,10)}{(3,-3)}
$$

$$
\text { At }(3,10) \Longleftrightarrow \mathrm{F}=3+20=\mathbf{2 3}
$$

$$
\text { At }(-3,8) \Longleftrightarrow F=-3+16=\mathbf{1 3}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow F=-3+6=\mathbf{3}
$$

$$
\text { At }(3,-3) \quad \mathrm{F}=3+-6=\mathbf{- 3}
$$

$$
\operatorname{At}(12.75,3.5) \Longleftrightarrow \mathrm{F}=12.75+7=\mathbf{1 9 . 7 5}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.
6. $F=3 x-5 y$

$$
\mathrm{F}_{\max }=\ldots \quad \text { at }
$$

$\qquad$

$$
\mathrm{F}_{\min }=\ldots \quad \text { at }
$$

$\qquad$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\mathrm{F}_{\text {min }}=\ldots \quad \text { at }
$$

$\qquad$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 6. } F=3 x-5 y
$$

$$
\mathrm{F}_{\max }=\ldots \text { at }
$$

$\qquad$

$$
\mathrm{F}_{\text {min }}=\ldots \text { at }
$$

$\qquad$
At $(3,10)$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
At $(3,10) \quad \mathrm{F}=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\text {min }}=\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=9
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 6. } F=3 x-5 y
$$

$$
\mathrm{F}_{\max }=\ldots \text { at }
$$

$\qquad$

$$
\mathrm{F}_{\text {min }}=\ldots \text { at }
$$

$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow F=9-
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\text {max }}=\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9-50
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\text {min }}=\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=9-50=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\text {max }}=\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow F=9-50=\mathbf{- 4 1}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{array}{ll}
6 . \quad \mathrm{F} & =3 \mathrm{x}-5 \mathrm{y} \\
\mathrm{~F}_{\max } & =\square \\
\mathrm{F}_{\min } & =\square
\end{array}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}$
At (-3, 8)

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow F=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}$
At $(-3,8) \quad \mathrm{F}=-9$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow F=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow F=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow F=-9-40
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}$
$\operatorname{At}(-3,8) \Longrightarrow \mathrm{F}=-9-40=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow F=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\operatorname{At}(-3,3)
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9-50=-41
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \Longleftrightarrow \mathrm{F}=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \quad \Longleftrightarrow \mathrm{F}=-9-
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \quad \Longrightarrow F=-9-15
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \Longleftrightarrow \mathrm{F}=-9-15=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=\quad \text { at } \\
& \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \Longleftrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3)
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\text {max }}= \\
& \mathrm{F}_{\text {min }}=\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \Longleftrightarrow \mathrm{F}=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\text {max }}= \\
& \mathrm{F}_{\text {min }}=\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \Longleftrightarrow \mathrm{F}=9
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\text {max }}= \\
& \mathrm{F}_{\text {min }}=\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=9-
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\text {max }}= \\
& \mathrm{F}_{\text {min }}=
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=9--15
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\text {max }}= \\
& \mathrm{F}_{\text {min }}=
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \quad \mathrm{F}=9--15=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\text {max }}= \\
& \mathrm{F}_{\text {min }}=\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=9--15=\mathbf{2 4}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\text {max }}= \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\operatorname{At}(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=9--15=\mathbf{2 4}
$$

At (12.75,3.5)

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=9--15=\mathbf{2 4}
$$

$$
\operatorname{At}(12.75,3.5) \Longrightarrow \mathrm{F}=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=9--15=\mathbf{2 4}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=9--15=\mathbf{2 4}
$$

$$
\operatorname{At}(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25-
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9-50=-41
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=9--15=\mathbf{2 4}
$$

$$
\operatorname{At}(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25-17.5
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=9--15=\mathbf{2 4}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25-17.5=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 6 . \quad \mathrm{F}=3 \mathrm{x}-5 \mathrm{y} \\
& \mathrm{~F}_{\text {max }}= \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9-50=-41
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\operatorname{At}(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=9--15=\mathbf{2 4}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25-17.5=\mathbf{2 0 . 7 5}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 6. } F=3 x-5 y
$$

$$
\mathrm{F}_{\text {max }}=\ldots \text { at }
$$

$$
\mathrm{F}_{\min }=\ldots \text { at }
$$

$$
\text { At }(3,10) \Longrightarrow \mathrm{F}=9-50=-41
$$

$$
\operatorname{At}(-3,8) \Longrightarrow \mathrm{F}=-9-40=-49
$$

$$
\operatorname{At}(-3,3) \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \Longrightarrow \mathrm{F}=9--15=\mathbf{2 4}
$$

$$
\operatorname{At}(12.75,3.5) \Longrightarrow \mathrm{F}=38.25-17.5=\mathbf{2 0 . 7 5}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 6. } F=3 x-5 y
$$

$$
\mathrm{F}_{\max }=\ldots \text { at }
$$

$$
\mathrm{F}_{\min }=\ldots \text { at }
$$

$$
\operatorname{At}(3,10) \Longleftrightarrow F=9-50=\mathbf{- 4 1}
$$

$$
\operatorname{At}(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\text { At }(-3,3) \Longleftrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=9--15=\mathbf{2 4}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25-17.5=\mathbf{2 0 . 7 5}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

| $6 . \quad \mathrm{F}$ | $=3 \mathrm{x}-5 \mathrm{y}$ |
| ---: | :--- |
| $\mathrm{F}_{\text {max }}$ | $=\mathbf{2 4}$ at |
| $\mathrm{F}_{\text {min }}$ | $=\longrightarrow$ at |
| At $(3,10)$ | $\Longrightarrow \mathrm{F}=9-50=\mathbf{- 4 1}$ |
| At $(-3,8)$ | $\Longrightarrow \mathrm{F}=-9-40=\mathbf{- 4 9}$ |
| At $(-3,3)$ | $\Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}$ |
| At $(3,-3)$ | $\Longrightarrow \mathrm{F}=9-\mathbf{1 5}=\mathbf{2 4}$ |

At $(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25-17.5=\mathbf{2 0 . 7 5}$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25-17.5=\mathbf{2 0 . 7 5}
$$

$$
\begin{aligned}
& \text { 6. } F=3 x-5 y \\
& \mathrm{~F}_{\max }=\underline{24} \text { at }(\mathbf{3},-\mathbf{3}) \\
& \mathrm{F}_{\text {min }}=\ldots \text { at } \\
& \operatorname{At}(3,10) \Longrightarrow \mathrm{F}=9-50=\mathbf{- 4 1} \\
& \operatorname{At}(-3,8) \Longrightarrow \mathrm{F}=-9-40=\mathbf{- 4 9} \\
& \text { At }(-3,3) \quad \mathrm{F}=-9-15=\mathbf{- 2 4} \\
& \text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=9-\mathbf{- 1 5}=\mathbf{2 4}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 6. } F=3 x-5 y
$$

$$
\begin{aligned}
\mathrm{F}_{\max } & =24 \\
\mathrm{~F}_{\min } & \text { at } \quad \text { at } 3,-3)
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=9-50=-41
$$

$$
\operatorname{At}(-3,8) \Longrightarrow \mathrm{F}=-9-40=-49
$$

$$
\operatorname{At}(-3,3) \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\operatorname{At}(3,-3) \quad \Longrightarrow \mathrm{F}=9--15=\mathbf{2 4}
$$

$$
\operatorname{At}(12.75,3.5) \Longrightarrow \mathrm{F}=38.25-17.5=\mathbf{2 0 . 7 5}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 6. } F=3 x-5 y
$$

$$
\begin{array}{ll}
\left.\mathrm{F}_{\max }=\ldots 24 \quad \text { at } \quad \text { at } 3,-3\right) \\
\mathrm{F}_{\min }= & \text { at }
\end{array}
$$

$$
\operatorname{At}(3,10) \Longleftrightarrow F=9-50=\mathbf{- 4 1}
$$

$$
\operatorname{At}(-3,8) \Longleftrightarrow F=-9-40=-49
$$

$$
\operatorname{At}(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow F=9--15=\mathbf{2 4}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25-17.5=\mathbf{2 0 . 7 5}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 6. } F=3 x-5 y
$$

$$
\mathrm{F}_{\max }=\underline{24} \text { at }(3,-3)
$$

$$
\mathrm{F}_{\min }=\quad \text { at }
$$

$$
\text { At }(3,10) \Longleftrightarrow \mathrm{F}=9-50=-41
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9-40=-49
$$

$$
\operatorname{At}(-3,3) \Longleftrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \quad \mathrm{F}=9--15=\mathbf{2 4}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25-17.5=\mathbf{2 0 . 7 5}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 6. } F=3 x-5 y
$$

$$
\mathrm{F}_{\max }=\underline{24} \text { at } \quad(3,-3)
$$

$$
\mathrm{F}_{\min }=-49 \text { at }
$$

$$
\text { At }(3,10) \Longrightarrow \mathrm{F}=9-50=-41
$$

$$
\text { At }(-3,8) \Longrightarrow \mathrm{F}=-9-40=-49
$$

$$
\operatorname{At}(-3,3) \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=9--15=\mathbf{2 4}
$$

$$
\operatorname{At}(12.75,3.5) \leftrightharpoons \mathrm{F}=38.25-17.5=\mathbf{2 0 . 7 5}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 6. } F=3 x-5 y
$$

$$
\begin{aligned}
& \mathrm{F}_{\max }=24 \\
& \mathrm{~F}_{\text {min }}=-49 \text { at } \quad \text { at } \quad(3,-3) \\
&(-3,8)
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=9-50=-41
$$

$$
\text { At }(-3,8) \Longrightarrow \mathrm{F}=-9-40=-49
$$

$$
\operatorname{At}(-3,3) \quad \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}
$$

$$
\text { At }(3,-3) \Longrightarrow \mathrm{F}=9--15=\mathbf{2 4}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25-17.5=\mathbf{2 0 . 7 5}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.
6. $F=3 x-5 y$
$\mathrm{F}_{\text {max }}=\underline{24}$ at $\underline{(3,-3)}$

$$
\mathrm{F}_{\min }=-49 \quad \text { at } \quad(-3,8)
$$

$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=9-50=-41$
At $(-3,8) \Longrightarrow \mathrm{F}=-9-40=-49$
At $(-3,3) \Longrightarrow \mathrm{F}=-9-15=\mathbf{- 2 4}$
At $(3,-3) \quad \Longrightarrow \mathrm{F}=9--15=\mathbf{2 4}$
At $(12.75,3.5) \Longrightarrow \mathrm{F}=38.25-17.5=\mathbf{2 0 . 7 5}$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.
7. $F=3 x+y$
$\mathrm{F}_{\text {max }}=$ at $\qquad$

$$
\mathrm{F}_{\min }=\ldots \quad \text { at }
$$

$\qquad$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=\square \quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10)$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
At $(3,10) \quad \mathrm{F}=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=\square
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow F=9
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=\square
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=9+$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=\square
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \text { at } \\
& \mathrm{F}_{\min }=\square \quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
At $(3,10) \Longrightarrow \mathrm{F}=9+10=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=\square
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=\square \quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=9+10=\mathbf{1 9}$
At $(-3,8)$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 7 . \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }= \\
& \mathrm{F}_{\min }= \\
& \text { at } \\
& \text { At }(3,10) \longmapsto \mathrm{at} \\
& \text { At }(-3,8) \longmapsto \mathrm{F}=9+10=\mathbf{1 9}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=\square \quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \Longleftrightarrow F=-9
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=\square \quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9+
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=\square \quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-9+8
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=\square \quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\operatorname{At}(-3,8) \Longleftrightarrow \mathrm{F}=-9+8=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=\square \quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\operatorname{At}(-3,8) \Longleftrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\operatorname{At}(-3,8) \Longleftrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\operatorname{At}(-3,3)
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=\square
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \Longleftrightarrow \mathrm{F}=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=9+10=\mathbf{1 9}$
$\operatorname{At}(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}$
At $(-3,3) \quad \mathrm{F}=-9$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=\square
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\operatorname{At}(-3,3) \quad \Longrightarrow \mathrm{F}=-9+
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow F=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \Longleftrightarrow F=-9+3
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow F=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \mathrm{F}=-9+3=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \Longleftrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \Longleftrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\text { At }(3,-3)
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow F=9
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\text { At }(3,-3) \quad \Longleftrightarrow \mathrm{F}=9+
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\text { At }(3,-3) \Longleftrightarrow \mathrm{F}=9+-3
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\text { At }(3,-3) \quad \mathrm{F}=9+-3=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\operatorname{At}(3,-3) \quad \Longrightarrow \mathrm{F}=9+-3=\mathbf{6}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\operatorname{At}(3,-3) \quad \Longrightarrow \mathrm{F}=9+-3=\mathbf{6}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\operatorname{At}(3,-3) \quad \Longrightarrow \mathrm{F}=9+-3=6
$$

$$
\operatorname{At}(12.75,3.5) \Longrightarrow \mathrm{F}=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\operatorname{At}(3,-3) \quad \Longrightarrow \mathrm{F}=9+-3=\mathbf{6}
$$

$$
\operatorname{At}(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\operatorname{At}(3,-3) \quad \Longrightarrow \mathrm{F}=9+-3=\mathbf{6}
$$

$$
\operatorname{At}(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25+
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\operatorname{At}(3,-3) \quad \Longrightarrow \mathrm{F}=9+-3=\mathbf{6}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25+3.5
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\operatorname{At}(3,-3) \quad \Longrightarrow \mathrm{F}=9+-3=\mathbf{6}
$$

$$
\operatorname{At}(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25+3.5=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\operatorname{At}(3,-3) \quad \Longrightarrow \mathrm{F}=9+-3=\mathbf{6}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25+3.5=\mathbf{4 1 . 7 5}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } F=3 x+y \\
& \mathrm{~F}_{\text {max }}=\text { at } \\
& \mathrm{F}_{\text {min }}=\ldots \quad \mathrm{at} \\
& \text { At }(3,10) \quad \Longrightarrow \mathrm{F}=9+10=\mathbf{1 9} \\
& \operatorname{At}(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1} \\
& \text { At }(-3,3) \quad \mathrm{F}=-9+3=\mathbf{- 6} \\
& \text { At }(3,-3) \quad \mathrm{F}=9+-3=6 \\
& \text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25+3.5=\mathbf{4 1 . 7 5}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } F=3 x+y \\
& \mathrm{~F}_{\text {max }}=\ldots \text { at } \\
& \mathrm{F}_{\text {min }}=\ldots \text { at } \\
& \text { At }(3,10) \quad \Longrightarrow \mathrm{F}=9+10=\mathbf{1 9} \\
& \text { At }(-3,8) \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1} \\
& \text { At }(-3,3) \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6} \\
& \text { At }(3,-3) \Longrightarrow \mathrm{F}=9+-3=6
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } F=3 x+y \\
& \mathrm{~F}_{\text {max }}=41.75 \text { at } \\
& \mathrm{F}_{\text {min }}=\ldots \text { at } \\
& \text { At }(3,10) \quad \Longrightarrow \mathrm{F}=9+10=\mathbf{1 9} \\
& \operatorname{At}(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1} \\
& \text { At }(-3,3) \quad \mathrm{F}=-9+3=\mathbf{- 6} \\
& \text { At }(3,-3) \quad \mathrm{F}=9+-3=6
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\text {max }}=\underline{41.75} \text { at }(12.75,3.5) \\
& \mathrm{F}_{\text {min }}=\ldots \text { at } \\
& \text { At }(3,10) \quad \Longrightarrow \mathrm{F}=9+10=\mathbf{1 9} \\
& \operatorname{At}(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1} \\
& \text { At }(-3,3) \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6} \\
& \text { At }(3,-3) \quad \mathrm{F}=9+-3=6
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\underline{\mathbf{4 1 . 7 5}} \text { at (12.75,3.5) } \\
& \mathrm{F}_{\min }=\square \text { at }
\end{aligned}
$$

$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=9+10=\mathbf{1 9}$
$\operatorname{At}(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}$
$\operatorname{At}(-3,3) \quad \mathrm{F}=-9+3=\mathbf{- 6}$
At $(3,-3) \quad \mathrm{F}=9+-3=\mathbf{6}$
At $(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25+3.5=\mathbf{4 1 . 7 5}$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \quad \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\max }=\underline{\mathbf{4 1 . 7 5}} \text { at (12.75,3.5) } \\
& \mathrm{F}_{\min }=\quad \text { at }
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\operatorname{At}(3,-3) \quad \Longrightarrow \mathrm{F}=9+-3=6
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25+3.5=\mathbf{4 1 . 7 5}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\text {max }}=\underline{41.75} \text { at (12.75,3.5) } \\
& \mathrm{F}_{\text {min }}=\quad \text { at } \\
& \text { At }(3,10) \Longrightarrow \mathrm{F}=9+10=\mathbf{1 9} \\
& \text { At }(-3,8) \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1} \\
& \text { At }(-3,3) \Longrightarrow \mathrm{F}=-9+3=-6 \\
& \operatorname{At}(3,-3) \Longrightarrow \mathrm{F}=9+-3=\mathbf{6} \\
& \operatorname{At}(12.75,3.5) \Longrightarrow \mathrm{F}=38.25+3.5=\mathbf{4 1 . 7 5}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } \mathrm{F}=3 \mathrm{x}+\mathrm{y} \\
& \mathrm{~F}_{\text {max }}=\underline{\mathbf{4 1 . 7 5}} \text { at (12.75,3.5) } \\
& \mathrm{F}_{\text {min }}=-6 \text { at } \\
& \text { At }(3,10) \Longrightarrow \mathrm{F}=9+10=\mathbf{1 9} \\
& \text { At }(-3,8) \Longrightarrow \mathrm{F}=-9+8=\mathbf{- 1} \\
& \text { At }(-3,3) \Longrightarrow \mathrm{F}=-9+3=-6 \\
& \operatorname{At}(3,-3) \Longrightarrow \mathrm{F}=9+-3=\mathbf{6} \\
& \operatorname{At}(12.75,3.5) \Longrightarrow \mathrm{F}=38.25+3.5=\mathbf{4 1 . 7 5}
\end{aligned}
$$

Algebra II Class Worksheet \#4 Unit 4


Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 7. } F=3 x+y \\
& F_{\max }=\underline{41.75} \text { at } \underline{(12.75,3.5)} \\
& F_{\min }=\underline{-6} \text { at } \frac{(-3,3)}{}
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=9+10=\mathbf{1 9}
$$

$$
\operatorname{At}(-3,8) \Longleftrightarrow \mathrm{F}=-9+8=\mathbf{- 1}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-9+3=\mathbf{- 6}
$$

$$
\operatorname{At}(3,-3) \quad \Longrightarrow \mathrm{F}=9+-3=\mathbf{6}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=38.25+3.5=\mathbf{4 1 . 7 5}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.
8. $F=4 x-2 y$
$\mathrm{F}_{\text {max }}=\ldots$ at $\qquad$

$$
\mathrm{F}_{\min }=\ldots \quad \text { at }
$$

$\qquad$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{array}{ll}
8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
\mathrm{~F}_{\max } & =\square \\
\mathrm{F}_{\min } & =-\quad \text { at } \\
& \text { at }
\end{array}
$$

$\qquad$
$\qquad$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
At $(3,10)$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
At $(3,10) \quad \mathrm{F}=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\text {max }}= \\
& \mathrm{F}_{\text {min }}=-\mathrm{at}
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=12
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \mathrm{F}=12-$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=12-20
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \mathrm{F}=12-20=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=12-20=\mathbf{- 8}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=\square \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At (-3, 8)

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-12
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$

$$
\text { At }(-3,8) \quad \Longrightarrow \mathrm{F}=-12-
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow \mathrm{F}=12-20=\mathbf{- 8}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-12-16
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\text { At }(3,10) \Longleftrightarrow \mathrm{F}=12-20=\mathbf{- 8}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=-12-16=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\min }=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=12-20=\mathbf{- 8}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=\mathbf{- 1 2}-16=\mathbf{- 2 8}
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
At (-3,3)

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
At $(-3,3) \quad \mathrm{F}=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
At $(-3,3) \Longrightarrow \mathrm{F}=-12$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
At $(-3,3) \quad \mathrm{F}=-12-$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
At $(-3,3) \quad \Longrightarrow \mathrm{F}=-12-6$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
At $(-3,3) \quad \mathrm{F}=-12-6=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
At $(-3,3) \quad \mathrm{F}=-12-6=\mathbf{- 1 8}$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
$\operatorname{At}(-3,3) \quad \mathrm{F}=-12-6=\mathbf{- 1 8}$
At $(3,-3)$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
$\operatorname{At}(-3,3) \quad \mathrm{F}=-12-6=\mathbf{- 1 8}$
At $(3,-3) \quad \Longrightarrow \mathrm{F}=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
$\operatorname{At}(-3,3) \quad \mathrm{F}=-12-6=\mathbf{- 1 8}$
At $(3,-3) \quad \Longrightarrow \mathrm{F}=12$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
$\operatorname{At}(-3,3) \quad \mathrm{F}=-12-6=\mathbf{- 1 8}$
At $(3,-3) \quad \mathrm{F}=12$ -

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
$\operatorname{At}(-3,3) \quad \mathrm{F}=-12-6=\mathbf{- 1 8}$
At $(3,-3) \quad \mathrm{F}=12--6$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
$\operatorname{At}(-3,3) \quad \mathrm{F}=-12-6=\mathbf{- 1 8}$
At $(3,-3) \quad \mathrm{F}=12--6=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
At $(-3,3) \quad \mathrm{F}=-12-6=\mathbf{- 1 8}$
At $(3,-3) \quad \mathrm{F}=12--6=\mathbf{1 8}$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow F=12-20=\mathbf{- 8}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=\mathbf{- 1 2}-16=\mathbf{- 2 8}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-12-6=\mathbf{- 1 8}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=12--6=\mathbf{1 8}
$$

$$
\text { At }(12.75,3.5)
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$

$$
\operatorname{At}(3,10) \Longleftrightarrow F=12-20=\mathbf{- 8}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=\mathbf{- 1 2}-16=\mathbf{- 2 8}
$$

$$
\text { At }(-3,3) \Longleftrightarrow F=-12-6=\mathbf{- 1 8}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=12--6=\mathbf{1 8}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
At $(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
$\operatorname{At}(-3,3) \quad \mathrm{F}=-12-6=\mathbf{- 1 8}$
At $(3,-3) \quad \Longrightarrow \mathrm{F}=12--6=\mathbf{1 8}$
At $(12.75,3.5) \Longleftrightarrow \mathrm{F}=51$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
$\operatorname{At}(-3,3) \quad \mathrm{F}=-12-6=\mathbf{- 1 8}$
At $(3,-3) \quad \Longrightarrow \mathrm{F}=12--6=\mathbf{1 8}$
At $(12.75,3.5) \Longrightarrow \mathrm{F}=51-$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
$\operatorname{At}(-3,3) \quad \mathrm{F}=-12-6=\mathbf{- 1 8}$
At $(3,-3) \quad \Longrightarrow \mathrm{F}=12--6=\mathbf{1 8}$
At $(12.75,3.5) \Longleftrightarrow \mathrm{F}=51-7$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
$\operatorname{At}(-3,3) \quad \mathrm{F}=-12-6=\mathbf{- 1 8}$
At $(3,-3) \quad \mathrm{F}=12--6=\mathbf{1 8}$
At $(12.75,3.5) \longmapsto \mathrm{F}=51-7=$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=-\quad \text { at } \\
& \mathrm{F}_{\text {min }}=-\quad \text { at }
\end{aligned}
$$

$\qquad$
$\qquad$
$\operatorname{At}(3,10) \quad \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
$\operatorname{At}(-3,3) \quad \mathrm{F}=-12-6=\mathbf{- 1 8}$
At $(3,-3) \quad \Longrightarrow \mathrm{F}=12--6=\mathbf{1 8}$
At $(12.75,3.5) \Longrightarrow \mathrm{F}=51-7=44$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }= \\
& \mathrm{F}_{\min }=\quad \text { at }
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}
$$

$$
\text { At }(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}
$$

$$
\operatorname{At}(-3,3) \Longrightarrow \mathrm{F}=-12-6=\mathbf{- 1 8}
$$

$$
\operatorname{At}(3,-3) \quad \Longrightarrow \mathrm{F}=12--6=\mathbf{1 8}
$$

$$
\operatorname{At}(12.75,3.5) \leftrightharpoons \mathrm{F}=51-7=44
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& 8 . \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }= \\
& \mathrm{F}_{\min }=\ldots \text { at }
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}
$$

$$
\text { At }(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}
$$

$$
\operatorname{At}(-3,3) \Longrightarrow \mathrm{F}=-12-6=\mathbf{- 1 8}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=12--6=\mathbf{1 8}
$$

$$
\text { At }(12.75,3.5) \Longrightarrow \mathrm{F}=51-7=44
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 8. } \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=+44 \text { at }
\end{aligned}
$$

$$
\mathrm{F}_{\min }=\ldots \text { at }
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}
$$

$$
\text { At }(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}
$$

$$
\operatorname{At}(-3,3) \Longrightarrow \mathrm{F}=-12-6=\mathbf{- 1 8}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=12--6=\mathbf{1 8}
$$

$$
\text { At }(12.75,3.5) \Longrightarrow \mathrm{F}=51-7=44
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 8. } F=4 x-2 y
$$

$$
\mathrm{F}_{\max }=44 \text { at }(12.75,3.5)
$$

$$
\mathrm{F}_{\min }=\ldots \text { at }
$$

$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
At $(-3,3) \Longrightarrow \mathrm{F}=-12-6=\mathbf{- 1 8}$
At $(3,-3) \Longrightarrow \mathrm{F}=12--6=\mathbf{1 8}$
At $(12.75,3.5) \Longrightarrow \mathrm{F}=51-7=44$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 8. } F=4 x-2 y
$$

$$
F_{\max }=44 \text { at }(\mathbf{1 2 . 7 5 , 3 . 5})
$$

$$
\mathrm{F}_{\text {min }}=\ldots \text { at }
$$

$\qquad$
$\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}$
At $(-3,3) \Longrightarrow \mathrm{F}=-12-6=\mathbf{- 1 8}$
At $(3,-3) \quad \Longrightarrow \mathrm{F}=12--6=\mathbf{1 8}$
At $(12.75,3.5) \Longrightarrow \mathrm{F}=51-7=44$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 8. } F=4 x-2 y
$$

$$
\mathrm{F}_{\max }=\ldots 44 \text { at }(\mathbf{1 2 . 7 5 , 3 . 5 )}
$$

$$
\mathrm{F}_{\min }=\quad \text { at }
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}
$$

$$
\operatorname{At}(-3,8) \Longrightarrow F=-12-16=\mathbf{- 2 8}
$$

$$
\operatorname{At}(-3,3) \Longrightarrow \mathrm{F}=-12-6=\mathbf{- 1 8}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=12--6=\mathbf{1 8}
$$

$$
\operatorname{At}(12.75,3.5) \leftrightharpoons \mathrm{F}=51-7=44
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 8. } F=4 x-2 y
$$

$$
F_{\max }=\ldots 44 \text { at }(\mathbf{1 2 . 7 5 , 3 . 5})
$$

$$
\mathrm{F}_{\min }=\quad \text { at }
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}
$$

$$
\text { At }(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}
$$

$$
\operatorname{At}(-3,3) \Longleftrightarrow \mathrm{F}=-12-6=\mathbf{- 1 8}
$$

$$
\text { At }(3,-3) \quad \mathrm{F}=12--6=\mathbf{1 8}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=51-7=44
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 8. } F=4 x-2 y
$$

$$
F_{\max }=\ldots 44 \text { at }(\mathbf{1 2 . 7 5 , 3 . 5})
$$

$$
\mathrm{F}_{\min }=-28 \text { at }
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}
$$

$$
\text { At }(-3,8) \Longrightarrow \mathrm{F}=-12-16=\mathbf{- 2 8}
$$

$$
\text { At }(-3,3) \Longleftrightarrow \mathrm{F}=-12-6=\mathbf{- 1 8}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=12--6=\mathbf{1 8}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=51-7=44
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\text { 8. } F=4 x-2 y
$$

$$
F_{\max }=\ldots 44 \text { at }(\mathbf{1 2 . 7 5 , 3 . 5})
$$

$$
\mathrm{F}_{\min }=-28 \text { at }(-3,8)
$$

$$
\operatorname{At}(3,10) \Longrightarrow \mathrm{F}=12-20=\mathbf{- 8}
$$

$$
\text { At }(-3,8) \Longrightarrow F=-12-16=\mathbf{- 2 8}
$$

$$
\operatorname{At}(-3,3) \Longleftrightarrow F=-12-6=\mathbf{- 1 8}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=12--6=\mathbf{1 8}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=51-7=44
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.

$$
\begin{aligned}
& \text { 8. } \quad \mathrm{F}=4 \mathrm{x}-2 \mathrm{y} \\
& \mathrm{~F}_{\max }=\underline{\mathbf{4 4}} \text { at } \underline{(\mathbf{1 2 . 7 5 , 3 . 5 )}} \\
& \mathrm{F}_{\min }=-\mathbf{- 2 8} \text { at } \underline{(\mathbf{- 3 , 8})}
\end{aligned}
$$

$$
\operatorname{At}(3,10) \Longleftrightarrow F=12-20=\mathbf{- 8}
$$

$$
\text { At }(-3,8) \Longleftrightarrow \mathrm{F}=\mathbf{- 1 2}-16=\mathbf{- 2 8}
$$

$$
\text { At }(-3,3) \quad \Longrightarrow \mathrm{F}=-12-6=\mathbf{- 1 8}
$$

$$
\text { At }(3,-3) \quad \Longrightarrow \mathrm{F}=12--6=\mathbf{1 8}
$$

$$
\text { At }(12.75,3.5) \Longleftrightarrow \mathrm{F}=51-7=44
$$

Algebra II Class Worksheet \#4 Unit 4


The maximum and the minimum values of $F$ will occur at a vertex of the region.
8. $F=4 x-2 y$

T

## Good luck on your homework !!


$\operatorname{At}(3,10) \Longleftrightarrow \mathrm{F}=12-20=\mathbf{- 8}$
At $(-3,8) \quad \mathrm{F}=-12-16=\mathbf{- 2 8}$
At $(-3,3) \quad \mathrm{F}=-12-6=\mathbf{- 1 8}$
At $(3,-3) \quad \mathrm{F}=12--6=\mathbf{1 8}$
At $(12.75,3.5) \Longrightarrow \mathrm{F}=51-7=44$

