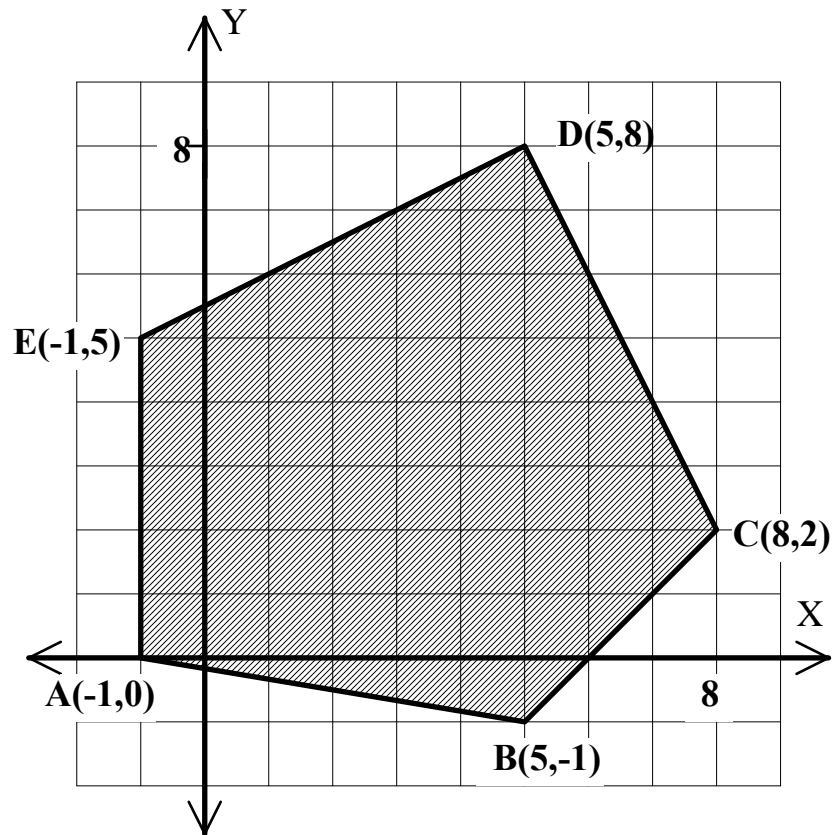


Algebra II Class Worksheet #4 Unit 4 page 1

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.



1. $T = 3x + 5y$

$T_{\max} = \underline{\hspace{2cm}}$ at $\underline{\hspace{2cm}}$

$T_{\min} = \underline{\hspace{2cm}}$ at $\underline{\hspace{2cm}}$

2. $T = 6x - 2y$

$T_{\max} = \underline{\hspace{2cm}}$ at $\underline{\hspace{2cm}}$

$T_{\min} = \underline{\hspace{2cm}}$ at $\underline{\hspace{2cm}}$

3. $T = x - 3y$

$T_{\max} = \underline{\hspace{2cm}}$ at $\underline{\hspace{2cm}}$

$T_{\min} = \underline{\hspace{2cm}}$ at $\underline{\hspace{2cm}}$

4. $T = x + 2y$

$T_{\max} = \underline{\hspace{2cm}}$ at $\underline{\hspace{2cm}}$

$T_{\min} = \underline{\hspace{2cm}}$ at $\underline{\hspace{2cm}}$

Algebra II Class Worksheet #4 Unit 4 page 2

Below, you are given a system of constraints and several objective functions. Graph the system and find the indicated maximum and minimum value of the function and the vertex at which each occurs.

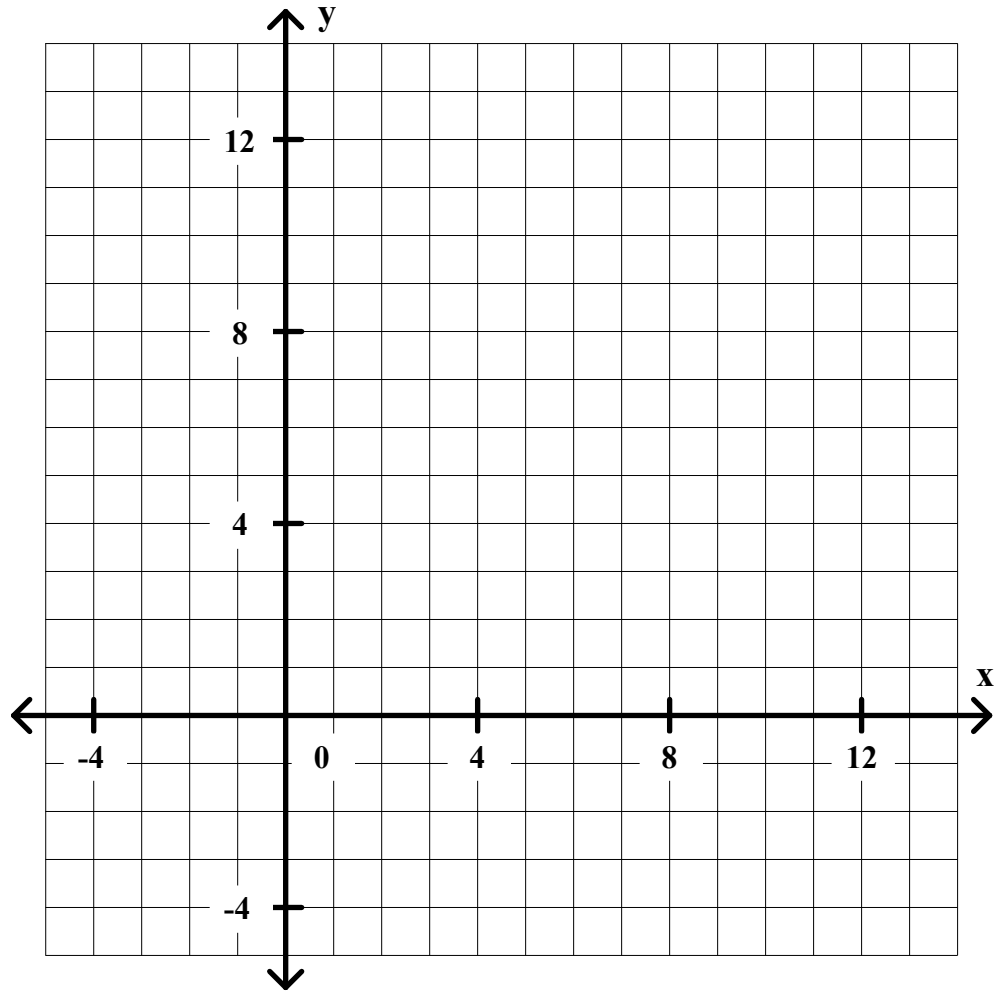
$$x + 3 \geq 0$$

$$x + y \geq 0$$

$$2x - 3y \leq 15$$

$$2x + 3y \leq 36$$

$$x - 3y \geq -27$$



5. $F = x + 2y$

$$F_{\max} = \underline{\hspace{2cm}} \text{ at } \underline{\hspace{2cm}}$$

$$F_{\min} = \underline{\hspace{2cm}} \text{ at } \underline{\hspace{2cm}}$$

6. $F = 3x - 5y$

$$F_{\max} = \underline{\hspace{2cm}} \text{ at } \underline{\hspace{2cm}}$$

$$F_{\min} = \underline{\hspace{2cm}} \text{ at } \underline{\hspace{2cm}}$$

7. $F = 3x + y$

$$F_{\max} = \underline{\hspace{2cm}} \text{ at } \underline{\hspace{2cm}}$$

$$F_{\min} = \underline{\hspace{2cm}} \text{ at } \underline{\hspace{2cm}}$$

8. $F = 4x - 2y$

$$F_{\max} = \underline{\hspace{2cm}} \text{ at } \underline{\hspace{2cm}}$$

$$F_{\min} = \underline{\hspace{2cm}} \text{ at } \underline{\hspace{2cm}}$$