Algebra II Lesson #1 Unit 4 Class Worksheet #1 For Worksheet #1

Consider the equation y = 2x - 3.

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The graph of this equation divides the plane into 3 distinct sets of points.



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Consider the equation y = 2x - 3.

The graph of this equation divides the plane into 3 distinct sets of points. (a) the points on the line

(b) the points 'above' the line



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Of course the points **on** the line make the equation true.

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Of course the points **on** the line make the equation true. This lesson is concerned with the other two sets of points.

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y = 2x - 3

Consider the vertical line x = 2.

Consider the equation y = 2x - 3.

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Consider the vertical line x = 2. This line intersects the line y = 2x - 3 at the point (2, 1).

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The graph of this equation divides the plane into 3 distinct sets of points. (a) the points on the line

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Consider the vertical line x = 2. This line intersects the line y = 2x - 3 at the point (2, 1). Of course, the equation is true at this point.

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Consider the vertical line x = 2. This line intersects the line y = 2x - 3 at the point (2, 1). Of course, the equation is true at this point. Consider any point on the line x = 2 above the point (2, 1).

Consider the equation y = 2x - 3.

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Consider the vertical line x = 2. This line intersects the line y = 2x - 3 at the point (2, 1). Of course, the equation is true at this point. Consider any point on the line x = 2 above the point (2, 1). The value of x has not changed.

Consider the equation y = 2x - 3.

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Consider the vertical line x = 2. This line intersects the line y = 2x - 3 at the point (2, 1). Of course, the equation is true at this point. Consider any point on the line x = 2 above the point (2, 1). The value of x has not changed. Therefore, the value of 2x - 3 has not changed.

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Consider the equation y = 2x - 3.

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Consider the vertical line x = 2. This line intersects the line y = 2x - 3 at the point (2, 1). Of course, the equation is true at this point. Consider any point on the line x = 2 **above** the point (2, 1). The value of x has not changed. Therefore, the value of 2x - 3 has not changed. However, the value of y has increased. Therefore, at any point above (2, 1) on the line x = 2, y > 2x - 3 !! Clearly, what was true for the vertical line x = 2 would have been true for any vertical line. Therefore, y > 2x - 3 at any point above the line y = 2x - 3. In the same way, it can be shown that y < 2x - 3 at any point below the line.

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Consider the 4 inequalities below.

 $y > 2x - 3 \qquad \qquad y \ge 2x - 3$



$$y < 2x - 3 \qquad \qquad y \le 2x - 3$$
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Consider the 4 inequalities below.



y > 2x - 3 $y \ge 2x - 3$ y < 2x - 3 $y \le 2x - 3$

These inequalities involve the points above the line y = 2x - 3.

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Consider the 4 inequalities below.

y > 2x - 3 $y \ge 2x - 3$ y < 2x - 3 $y \le 2x - 3$

These inequalities involve the points above the line y = 2x - 3. y > 2x - 3 does not include the points on the line.



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These inequalities involve the points above the line y = 2x - 3. y > 2x - 3 does not include the points on the line. $y \ge 2x - 3$ does include the points on the line.



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These inequalities involve the points below the line y = 2x - 3. y < 2x - 3 does not include the points on the line. $y \le 2x - 3$ does include the points on the line.

y > 2x - 3These inequalities involve the points above the line y = 2x - 33.

y > 2x - 3 does not include the points on the line. $y \ge 2x - 3$ does include the points on the line.

 $y \ge 2x - 3$ These inequalities involve the points above the line y = 2x - 33. $y \ge 2x - 3$ does not include the points on the line.

 $y \ge 2x - 3$ does include the points on the line. Consider these graphs.

y > 2x - 3 $y \ge 2x - 3$ 3.

y > 2x - 3 does not include the points on the line. $y \ge 2x - 3$ does include the points on the line. Consider these graphs.



y > 2x - 3 $y \ge 2x - 3$ These inequalities involve the points above the line y = 2x - 3.

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The 'dashed line' indicates the points on the line <u>are not</u> included in the graph.

y > 2x - 3 $y \ge 2x - 3$ 3.

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Consider these graphs.



The 'dashed line' indicates the points on the line <u>are not</u> included in the graph.



The 'solid line' indicates the points on the line <u>are</u> included in the graph.

y < 2x - 3 $y \le 2x - 3$ These inequalities involve the points below the line y = 2x - 3.y < 2x - 3 does not include the points on the line. $y \le 2x - 3$ does include the points on the line.

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y < 2x - 3These inequalities involve the points below the line y = 2x - 3. y < 2x - 3 does not include the points on the line. $y \le 2x - 3$ does include the points on the line.



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y < 2x - 3These inequalities involve the points below the line y = 2x - 3. y < 2x - 3 does not include the points on the line. $y \le 2x - 3$ does include the points on the line.



The 'dashed line' indicates the points on the line <u>are not</u> included in the graph.



The 'solid line' indicates the points on the line <u>are</u> included in the graph.

Algebra II Two Variable Linear Inequalities Given any oblique line y = mx + b,

Given any oblique line y = mx + b, there are 4 related inequalities.

Given any oblique line y = mx + b, there are 4 related inequalities.

y > mx + b

Given any oblique line y = mx + b, there are 4 related inequalities.

y > mx + b $y \ge mx + b$

Given any oblique line y = mx + b, there are 4 related inequalities.

y > mx + b $y \ge mx + b$ y < mx + b

Given any oblique line y = mx + b, there are 4 related inequalities.

 $y > mx + b \qquad y \ge mx + b \qquad y < mx + b \qquad y \le mx + b$

Given any oblique line y = mx + b, there are 4 related inequalities. Their graphs look like this.

y > mx + b $y \ge mx + b$ y < mx + b $y \le mx + b$







 $y \le mx + b$



Given any oblique line y = mx + b, there are 4 related inequalities.



Given any oblique line y = mx + b, there are 4 related inequalities.



Given any oblique line y = mx + b, there are 4 related inequalities.



Given any oblique line y = mx + b, there are 4 related inequalities.



Given any oblique line y = mx + b, there are 4 related inequalities.



dashed boundary Shade above the line.

Given any oblique line y = mx + b, there are 4 related inequalities.


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Algebra II Two Variable Linear Inequalities Given any horizontal line y = k,

Given any horizontal line y = k, there are 4 related inequalities.

Given any horizontal line y = k, there are 4 related inequalities.

y > k

Given any horizontal line y = k, there are 4 related inequalities.

y > k $y \ge k$

Given any horizontal line y = k, there are 4 related inequalities.

 $\mathbf{y} > \mathbf{k} \qquad \qquad \mathbf{y} \ge \mathbf{k} \qquad \qquad \mathbf{y} < \mathbf{k}$

Given any horizontal line y = k, there are 4 related inequalities.

 $y > k \qquad \qquad y \ge k \qquad \qquad y < k \qquad \qquad y \le k$

Given any horizontal line y = k, there are 4 related inequalities. Their graphs look like this.

 $y > k \qquad \qquad y \ge k \qquad \qquad y < k \qquad \qquad y \le k$

Given any horizontal line y = k, there are 4 related inequalities. Their graphs look like this.





Given any horizontal line y = k, there are 4 related inequalities. Their graphs look like this.



y ≤ k

Given any horizontal line y = k, there are 4 related inequalities. Their graphs look like this.



 $y \leq k$

Given any horizontal line y = k, there are 4 related inequalities. Their graphs look like this.



Given any horizontal line y = k, there are 4 related inequalities.



Given any horizontal line y = k, there are 4 related inequalities.



Given any horizontal line y = k, there are 4 related inequalities.



Given any horizontal line y = k, there are 4 related inequalities.



Given any horizontal line y = k, there are 4 related inequalities.



dashed boundary Shade above the line.

Given any horizontal line y = k, there are 4 related inequalities.



Given any horizontal line y = k, there are 4 related inequalities.



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Given any vertical line $\mathbf{x} = \mathbf{k}$,

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x > k

Given any vertical line $\mathbf{x} = \mathbf{k}$, there are 4 related inequalities.

x > k $x \ge k$

Given any vertical line $\mathbf{x} = \mathbf{k}$, there are 4 related inequalities.

 $\mathbf{x} > \mathbf{k} \qquad \qquad \mathbf{x} \ge \mathbf{k} \qquad \qquad \mathbf{x} < \mathbf{k}$

Given any vertical line $\mathbf{x} = \mathbf{k}$, there are 4 related inequalities.

 $x > k \qquad x \ge k \qquad x < k \qquad x \le k$

Given any vertical line $\mathbf{x} = \mathbf{k}$, there are 4 related inequalities. Their graphs look like this.

 $x > k \qquad x \ge k \qquad x < k \qquad x \le k$

 $\mathbf{x} \leq \mathbf{k}$



 $\mathbf{x} \leq \mathbf{k}$





 $x \leq k$



Given any vertical line $\mathbf{x} = \mathbf{k}$, there are 4 related inequalities.



Given any vertical line $\mathbf{x} = \mathbf{k}$, there are 4 related inequalities.



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Given any vertical line $\mathbf{x} = \mathbf{k}$, there are 4 related inequalities.



Given any vertical line $\mathbf{x} = \mathbf{k}$, there are 4 related inequalities.

Their graphs look like this. The line $\mathbf{x} = \mathbf{k}$ is the 'boundary line' in each case.



dashed boundary Shade right of the line.

Given any vertical line $\mathbf{x} = \mathbf{k}$, there are 4 related inequalities.



Given any vertical line $\mathbf{x} = \mathbf{k}$, there are 4 related inequalities.



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Given any vertical line $\mathbf{x} = \mathbf{k}$, there are 4 related inequalities.



Algebra II CWS #1 Unit 4

Algebra II CWS #1 Unit 4

Graph each of the following.



1. y < 2x - 3

Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Step 3: Shade the appropriate side of the line.

Algebra II CWS #1 Unit 4

Graph each of the following.



1. y < 2x - 3

Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Step 3: Shade the appropriate side of the line.
Graph each of the following.

1. y < 2x - 3

The boundary line is the oblique line y = 2x - 3.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

1. y < 2x - 3

The boundary line is the oblique line y = 2x - 3.



Step 1: Graph several points on the boundary line.

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Graph each of the following.

1. y < 2x - 3

The boundary line is the oblique line y = 2x - 3.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

1. y < 2x - 3

The boundary line is the oblique line y = 2x - 3.

The boundary line is a dashed line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

1. y < 2x - 3

The boundary line is the oblique line y = 2x - 3.

The boundary line is a dashed line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

1. y < 2x - 3

The boundary line is the oblique line y = 2x - 3.

The boundary line is a dashed line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

1. y < 2x - 3

The boundary line is the oblique line y = 2x - 3.

The boundary line is a dashed line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

1. y < 2x - 3

The boundary line is the oblique line y = 2x - 3.

The boundary line is a dashed line.

Shade below the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

1. y < 2x - 3

The boundary line is the oblique line y = 2x - 3.

The boundary line is a dashed line.

Shade below the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

1. y < 2x - 3

The boundary line is the oblique line y = 2x - 3.

The boundary line is a dashed line.

Shade below the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.



 $2. \quad y \leq -2x + 2$

Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.



 $2. \quad y \leq -2x + 2$

Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

2. $y \le -2x + 2$

The boundary line is the oblique line y = -2x + 2.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

2. $y \le -2x + 2$

The boundary line is the oblique line y = -2x + 2.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

2. $y \le -2x + 2$

The boundary line is the oblique line y = -2x + 2.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

2. $y \le -2x + 2$

The boundary line is the oblique line y = -2x + 2.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

 $2. \quad y \leq -2x + 2$

The boundary line is the oblique line y = -2x + 2.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

2. $y \le -2x + 2$

The boundary line is the oblique line y = -2x + 2.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

 $2. \quad y \leq -2x + 2$

The boundary line is the oblique line y = -2x + 2.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

 $2. \quad y \leq -2x + 2$

The boundary line is the oblique line y = -2x + 2.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

 $2. \quad y \leq -2x + 2$

The boundary line is the oblique line y = -2x + 2.

The boundary line is a solid line.

Shade below the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

2. $y \le -2x + 2$

The boundary line is the oblique line y = -2x + 2.

The boundary line is a solid line.

Shade below the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

 $2. \quad y \leq -2x + 2$

The boundary line is the oblique line y = -2x + 2.

The boundary line is a solid line.

Shade below the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

3. $y > \frac{2}{3}x + 3$



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

3. $y > \frac{2}{3}x + 3$



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

3. $y > \frac{2}{3}x + 3$

The boundary line is the oblique line y = (2/3)x + 3.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

3. $y > \frac{2}{3}x + 3$

The boundary line is the oblique line y = (2/3)x + 3.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

3. $y > \frac{2}{3}x + 3$

The boundary line is the oblique line y = (2/3)x + 3.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

3. $y > \frac{2}{3}x + 3$

The boundary line is the oblique line y = (2/3)x + 3.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

3. $y > \frac{2}{3}x + 3$

The boundary line is the oblique line y = (2/3)x + 3.

The boundary line is a dashed line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

3. $y > \frac{2}{3}x + 3$

The boundary line is the oblique line y = (2/3)x + 3.

The boundary line is a dashed line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

3. $y > \frac{2}{3}x + 3$

The boundary line is the oblique line y = (2/3)x + 3.

The boundary line is a dashed line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

3. $y > \frac{2}{3}x + 3$

The boundary line is the oblique line y = (2/3)x + 3.

The boundary line is a dashed line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

3. $y > \frac{2}{3}x + 3$

The boundary line is the oblique line y = (2/3)x + 3.

The boundary line is a dashed line.

Shade above the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

3. $y > \frac{2}{3}x + 3$

The boundary line is the oblique line y = (2/3)x + 3.

The boundary line is a dashed line.

Shade above the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.
Graph each of the following.

3. $y > \frac{2}{3}x + 3$

The boundary line is the oblique line y = (2/3)x + 3.

The boundary line is a dashed line.

Shade above the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

4. $y \ge \frac{-2}{5}x - 1$

The boundary line is the oblique line y = (-2/5)x - 1.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

4. $y \ge \frac{-2}{5}x - 1$

The boundary line is the oblique line y = (-2/5)x - 1.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

4. $y \ge \frac{-2}{5}x - 1$

The boundary line is the oblique line y = (-2/5)x - 1.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

4. $y \ge \frac{-2}{5}x - 1$

The boundary line is the oblique line y = (-2/5)x - 1.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

4. $y \ge \frac{-2}{5}x - 1$

The boundary line is the oblique line y = (-2/5)x - 1.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

4. $y \ge \frac{-2}{5}x - 1$

The boundary line is the oblique line y = (-2/5)x - 1.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

4. $y \ge \frac{-2}{5}x - 1$

The boundary line is the oblique line y = (-2/5)x - 1.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

4. $y \ge \frac{-2}{5}x - 1$

The boundary line is the oblique line y = (-2/5)x - 1.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

4. $y \ge \frac{-2}{5}x - 1$

The boundary line is the oblique line y = (-2/5)x - 1.

The boundary line is a solid line.

Shade above the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

4. $y \ge \frac{-2}{5}x - 1$

The boundary line is the oblique line y = (-2/5)x - 1.

The boundary line is a solid line.

Shade above the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

4. $y \ge \frac{-2}{5}x - 1$

The boundary line is the oblique line y = (-2/5)x - 1.

The boundary line is a solid line.

Shade above the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

5. y < 3



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

5. y < 3



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

5. y < 3

The boundary line is the horizontal line y = 3.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

5. y < 3

The boundary line is the horizontal line y = 3.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

5. y < 3

The boundary line is the horizontal line y = 3.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

5. y < 3

The boundary line is the horizontal line y = 3.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

5. y < 3

The boundary line is the horizontal line y = 3.

The boundary line is a dashed line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

5. y < 3

The boundary line is the horizontal line y = 3.

The boundary line is a dashed line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

5. y < 3

The boundary line is the horizontal line y = 3.

The boundary line is a dashed line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

5. y < 3

The boundary line is the horizontal line y = 3.

The boundary line is a dashed line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

5. y < 3

The boundary line is the horizontal line y = 3.

The boundary line is a dashed line.

Shade below the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

5. y < 3

The boundary line is the horizontal line y = 3.

The boundary line is a dashed line.

Shade below the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

5. y < 3

The boundary line is the horizontal line y = 3.

The boundary line is a dashed line.

Shade below the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

6. $x \ge -2$



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

6. $x \ge -2$



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

6. x ≥ -2

The boundary line is the vertical line x = -2.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

6. x ≥ -2

The boundary line is the vertical line x = -2.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

6. x ≥ -2

The boundary line is the vertical line x = -2.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

6. x ≥ -2

The boundary line is the vertical line x = -2.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

6. x ≥ -2

The boundary line is the vertical line x = -2.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

6. x ≥ -2

The boundary line is the vertical line x = -2.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

6. x ≥ -2

The boundary line is the vertical line x = -2.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.
Graph each of the following.

6. x ≥ -2

The boundary line is the vertical line x = -2.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

6. x ≥ -2

The boundary line is the vertical line x = -2.

The boundary line is a solid line.

Shade to the right of the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

6. x ≥ -2

The boundary line is the vertical line x = -2.

The boundary line is a solid line.

Shade to the right of the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

6. x ≥ -2

The boundary line is the vertical line x = -2.

The boundary line is a solid line.

Shade to the right of the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

 $7. \quad y \leq 2x$



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

 $7. \quad y \leq 2x$



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

7. $y \leq 2x$

The boundary line is the oblique line y = 2x.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

7. $y \leq 2x$

The boundary line is the oblique line y = 2x.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

7. $y \leq 2x$

The boundary line is the oblique line y = 2x.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

7. $y \leq 2x$

The boundary line is the oblique line y = 2x.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

7. $y \leq 2x$

The boundary line is the oblique line y = 2x.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

7. $y \leq 2x$

The boundary line is the oblique line y = 2x.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

7. $y \leq 2x$

The boundary line is the oblique line y = 2x.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

7. $y \leq 2x$

The boundary line is the oblique line y = 2x.

The boundary line is a solid line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

7. $y \leq 2x$

The boundary line is the oblique line y = 2x.

The boundary line is a solid line.

Shade below the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

7. $y \leq 2x$

The boundary line is the oblique line y = 2x.

The boundary line is a solid line.

Shade below the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

7. $y \leq 2x$

The boundary line is the oblique line y = 2x.

The boundary line is a solid line.

Shade below the line.



Step 1: Graph several points on the boundary line.

Step 2: Draw the boundary line.

Graph each of the following.

8. 3x + 5y > 10





Graph each of the following.

8. 3x + 5y > 10



Graph each of the following.



Graph each of the following.



y

0

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5

5

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-5

Graph each of the following.

8. 3x + 5y > 105y > -3x

Graph each of the following.

8. 3x + 5y > 105y > -3x +



Graph each of the following.

8. 3x + 5y > 105y > -3x + 10



Graph each of the following.

8. 3x + 5y > 10 5y > -3x + 10y



Graph each of the following.

8. 3x + 5y > 105y > -3x + 10y >



Graph each of the following.

8. 3x + 5y > 105y > -3x + 10 $y > \frac{-3}{5}x$



Graph each of the following.

8. 3x + 5y > 105y > -3x + 10 $y > \frac{-3}{5}x +$



Graph each of the following.

8. 3x + 5y > 10 5y > -3x + 10 $y > \frac{-3}{5}x + 2$



Graph each of the following.

8. 3x + 5y > 10 5y > -3x + 10 $y > \frac{-3}{5}x + 2$



Graph each of the following.

8. 3x + 5y > 10 5y > -3x + 10 $y > \frac{-3}{5}x + 2$



Graph each of the following.

8. 3x + 5y > 10 5y > -3x + 10 $y > \frac{-3}{5}x + 2$



Step 1: Solve for y. (If that is not possible, then solve for x.)

Step 2: Graph several points on the boundary line.

Graph each of the following.

8. 3x + 5y > 10 5y > -3x + 10 $y > \frac{-3}{5}x + 2$

The boundary line is the oblique line $y = \frac{-3}{5}x + 2$.



Step 1: Solve for y. (If that is not possible, then solve for x.)

Step 2: Graph several points on the boundary line.

Graph each of the following.

8. 3x + 5y > 10 5y > -3x + 10 $y > \frac{-3}{5}x + 2$

The boundary line is the oblique line $y = \frac{-3}{5}x + 2$.



Step 1: Solve for y. (If that is not possible, then solve for x.)

Step 2: Graph several points on the boundary line.

Graph each of the following.

8. 3x + 5y > 10 5y > -3x + 10 $y > \frac{-3}{5}x + 2$

The boundary line is the oblique line $y = \frac{-3}{5}x + 2$.



Step 1: Solve for y. (If that is not possible, then solve for x.)Step 2: Graph several points on the boundary line.

Graph each of the following.

8. 3x + 5y > 10 5y > -3x + 10 $y > \frac{-3}{5}x + 2$

The boundary line is the oblique line $y = \frac{-3}{5}x + 2$.



Step 1: Solve for y. (If that is not possible, then solve for x.)

Step 2: Graph several points on the boundary line.

Step 3: Draw the boundary line.
Graph each of the following.

8. 3x + 5y > 10 5y > -3x + 10 $y > \frac{-3}{5}x + 2$

The boundary line is the oblique line $y = \frac{-3}{5}x + 2$.

The boundary line is a dashed line.



Step 1: Solve for y. (If that is not possible, then solve for x.)

Step 2: Graph several points on the boundary line.

Step 3: Draw the boundary line.

Graph each of the following.

8. 3x + 5y > 10 5y > -3x + 10 $y > \frac{-3}{5}x + 2$

The boundary line is the oblique line $y = \frac{-3}{5}x + 2$.

The boundary line is a dashed line.



Step 1: Solve for y. (If that is not possible, then solve for x.)

Step 2: Graph several points on the boundary line.

Step 3: Draw the boundary line.

Graph each of the following.

8. 3x + 5y > 10 5y > -3x + 10 $y > \frac{-3}{5}x + 2$

The boundary line is the oblique line $y = \frac{-3}{5}x + 2$.

The boundary line is a dashed line.



- **Step 2: Graph several points on the boundary line.**
- **Step 3: Draw the boundary line.**

Graph each of the following.

8. 3x + 5y > 10 5y > -3x + 10 $y > \frac{-3}{5}x + 2$

The boundary line is the oblique line $y = \frac{-3}{5}x + 2$.

The boundary line is a dashed line.



- Step 2: Graph several points on the boundary line.
- **Step 3: Draw the boundary line.**
- **Step 4:** Shade the appropriate side of the line.

Graph each of the following.

8. 3x + 5y > 10 5y > -3x + 10 $y > \frac{-3}{5}x + 2$

The boundary line is the oblique line $y = \frac{-3}{5}x + 2$.

The boundary line is a dashed line.

Shade above the line.



Step 1: Solve for y. (If that is not possible, then solve for x.)

Step 2: Graph several points on the boundary line.

Step 3: Draw the boundary line.

Graph each of the following.

8. 3x + 5y > 105y > -3x + 10 $y > \frac{-3}{5}x + 2$

The boundary line is the oblique line $y = \frac{-3}{5}x + 2$.

The boundary line is a dashed line.

Shade above the line.



Step 1: Solve for y. (If that is not possible, then solve for x.)

Step 2: Graph several points on the boundary line.

Step 3: Draw the boundary line.

Graph each of the following.

8. 3x + 5y > 10 5y > -3x + 10 $y > \frac{-3}{5}x + 2$

The boundary line is the oblique line $y = \frac{-3}{5}x + 2$.

The boundary line is a dashed line.

Shade above the line.



- Step 2: Graph several points on the boundary line.
- **Step 3: Draw the boundary line.**
- **Step 4: Shade the appropriate side of the line.**

Graph each of the following.

9. $-5x + 2y \le 10$



- Step 2: Graph several points on the boundary line.
- **Step 3: Draw the boundary line.**
- **Step 4: Shade the appropriate side of the line.**

Graph each of the following.

9. $-5x + 2y \le 10$



- **Step 2:** Graph several points on the boundary line.
- **Step 3: Draw the boundary line.**
- **Step 4: Shade the appropriate side of the line.**

Graph each of the following.



- **Step 2:** Graph several points on the boundary line.
- **Step 3: Draw the boundary line.**
- **Step 4: Shade the appropriate side of the line.**

Graph each of the following.

9. $-5x + 2y \le 10$ $2y \le$



- Step 2: Graph several points on the boundary line.
- **Step 3: Draw the boundary line.**
- **Step 4: Shade the appropriate side of the line.**

Graph each of the following.

9. $-5x + 2y \le 10$

 $2y \le 5x$



- **Step 2: Graph several points on the boundary line.**
- **Step 3: Draw the boundary line.**
- **Step 4: Shade the appropriate side of the line.**

Graph each of the following.

9. $-5x + 2y \le 10$ $2y \le 5x +$



- Step 2: Graph several points on the boundary line.
- **Step 3: Draw the boundary line.**
- **Step 4:** Shade the appropriate side of the line.

Graph each of the following.

9. $-5x + 2y \le 10$ $2y \le 5x + 10$



- Step 2: Graph several points on the boundary line.
- **Step 3: Draw the boundary line.**
- **Step 4: Shade the appropriate side of the line.**

Graph each of the following.

9. $-5x + 2y \le 10$ $2y \le 5x + 10$ y



- **Step 2:** Graph several points on the boundary line.
- **Step 3: Draw the boundary line.**
- **Step 4: Shade the appropriate side of the line.**

Graph each of the following.

9. $-5x + 2y \le 10$ $2y \le 5x + 10$ $y \le$



- Step 2: Graph several points on the boundary line.
- **Step 3: Draw the boundary line.**
- **Step 4: Shade the appropriate side of the line.**

Graph each of the following.

9. $-5x + 2y \le 10$ $2y \le 5x + 10$ $y \le \frac{5}{2}x$



- Step 2: Graph several points on the boundary line.
- **Step 3: Draw the boundary line.**
- **Step 4: Shade the appropriate side of the line.**

Graph each of the following.

9. $-5x + 2y \le 10$ $2y \le 5x + 10$ $y \le \frac{5}{2}x +$



- Step 2: Graph several points on the boundary line.
- **Step 3: Draw the boundary line.**
- **Step 4: Shade the appropriate side of the line.**

Graph each of the following.

9. $-5x + 2y \le 10$ $2y \le 5x + 10$ $y \le \frac{5}{2}x + 5$



- Step 2: Graph several points on the boundary line.
- **Step 3: Draw the boundary line.**
- **Step 4: Shade the appropriate side of the line.**

Graph each of the following.

9. $-5x + 2y \le 10$ $2y \le 5x + 10$ $y \le \frac{5}{2}x + 5$



- **Step 2:** Graph several points on the boundary line.
- **Step 3: Draw the boundary line.**
- **Step 4: Shade the appropriate side of the line.**

Graph each of the following.

9. $-5x + 2y \le 10$ $2y \le 5x + 10$ $y \le \frac{5}{2}x + 5$



- Step 2: Graph several points on the boundary line.
- **Step 3: Draw the boundary line.**
- **Step 4:** Shade the appropriate side of the line.

Graph each of the following.

9. $-5x + 2y \le 10$ $2y \le 5x + 10$ $y \le \frac{5}{2}x + 5$



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The boundary line is a solid line.



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Shade below the line.



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Graph each of the following.



10. 3x - y > -4

- Step 2: Graph several points on the boundary line.
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- **Step 2:** Graph several points on the boundary line.
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Graph each of the following.



10. 3x - y > -4-y > -3x

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Graph each of the following.



10. 3x - y > -4-y > -3x -

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Graph each of the following.



10. 3x - y > -4-y > -3x - 4

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Graph each of the following.

10. 3x - y > -4-y > -3x - 4y



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The boundary line is the oblique line y = 3x + 4.

The boundary line is a dashed line.



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Graph each of the following.



11. x - y < 0

- Step 2: Graph several points on the boundary line.
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The boundary line is a dashed line.



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- **Step 2: Graph several points on the boundary line.**
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Graph each of the following.



12. $5x + 10 \ge 0$

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Graph each of the following.

12. $5x + 10 \ge 0$ $5x \ge -10$ $x \ge -2$

The boundary line is the vertical line x = -2.



- **Step 2:** Graph several points on the boundary line.
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Graph each of the following.

12. 5x + 10 ≥ 0 5x ≥ -10x ≥ -2

The boundary line is the vertical line x = -2.



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Graph each of the following.

12. 5x + 10 ≥ 05x ≥ -10x ≥ -2

The boundary line is the vertical line x = -2.



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- **Step 4: Shade the appropriate side of the line.**

Graph each of the following.

12. 5x + 10 ≥ 0 5x ≥ -10x ≥ -2

The boundary line is the vertical line x = -2.



Step 1: Solve for y. (If that is not possible, then solve for x.)

Step 2: Graph several points on the boundary line.

Step 3: Draw the boundary line.

Graph each of the following.

12. $5x + 10 \ge 0$ $5x \ge -10$ $x \ge -2$

The boundary line is the vertical line x = -2.

The boundary line is a solid line.



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Shade to the right of the line.



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