

Algebra I Lesson #4 Unit 4
Class Worksheet #4
For Worksheets #7&8

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

$$-3 < x < 4$$

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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$$-3 < x < 4$$

This continued inequality says 2 things about the variable x .

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

$$-3 < x < 4$$

This continued inequality says 2 things about the variable x .

First: $-3 < x$ means x is **greater than -3**.

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

$$-3 < x < 4$$

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Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

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Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

$$-3 < x < 4$$

This continued inequality says 2 things about the variable x .

First: $-3 < x$ means **x is greater than -3 .**

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Continued inequalities are read from the middle.

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

$$-3 < x < 4$$

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Continued inequalities are read from the middle.

$$-3 < x < 4$$

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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$$-3 < x < 4$$

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Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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Continued inequalities are read from the middle.

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Algebra I Class Worksheet #4 Unit 4

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Continued inequalities are read from the middle.

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This continued inequality says 2 things about the variable x .

First: $-3 < x$ means **x is greater than -3 .**

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Continued inequalities are read from the middle.

$-3 < x < 4$ is read **' x is greater than -3 and less than 4 '.**

You can also say **' x is between -3 and 4 '.**

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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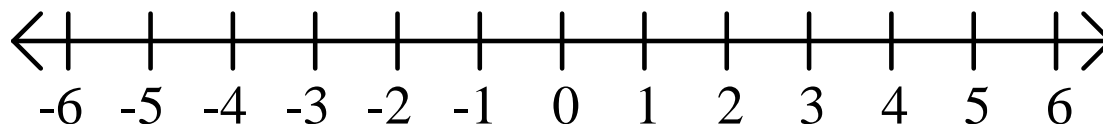
Second: $x < 4$ means x is less than 4 .

Continued inequalities are read from the middle.

$-3 < x < 4$ is read ' x is greater than -3 and less than 4 '.

You can also say ' x is between -3 and 4 '.

Here is the graph.



Algebra I Class Worksheet #4 Unit 4

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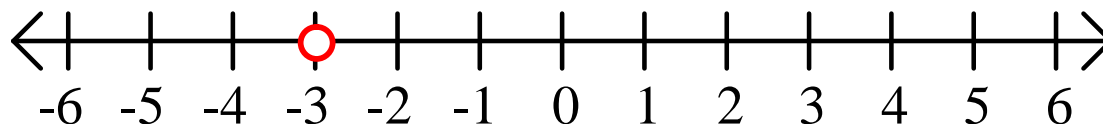
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Continued inequalities are read from the middle.

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Here is the graph.



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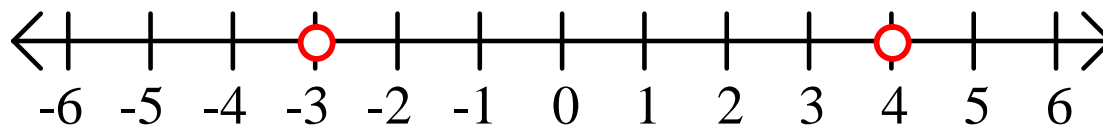
Second: $x < 4$ means x is less than 4 .

Continued inequalities are read from the middle.

$-3 < x < 4$ is read ' x is greater than -3 and less than 4 '.

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Here is the graph.



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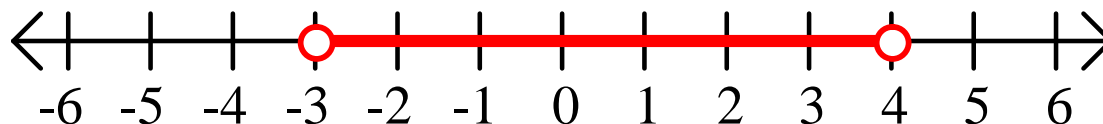
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Here is the graph.



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Continued Inequalities

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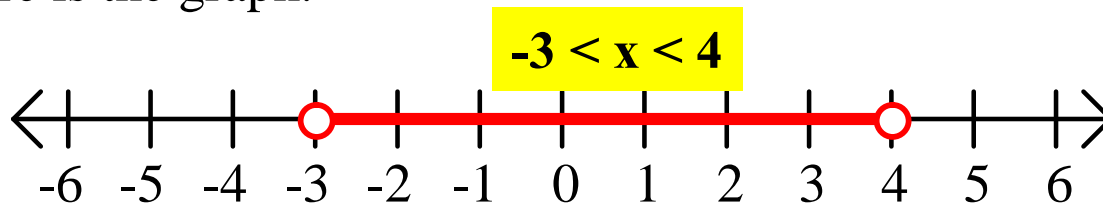
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Here is the graph.



Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

$$-5 \leq x \leq 1$$

Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

$$-5 \leq x \leq 1$$

This continued inequality says 2 things about the variable x .

First: $-5 \leq x$ means x is **greater than or equal to -5**.

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

$$-5 \leq x \leq 1$$

This continued inequality says 2 things about the variable x .

First: $-5 \leq x$ means x is **greater than or equal to -5**.

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Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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This continued inequality says 2 things about the variable x .

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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$-5 \leq x \leq 1$ is read **' x is greater than or equal to -5 and less than or equal to 1 '.**

Algebra I Class Worksheet #4 Unit 4

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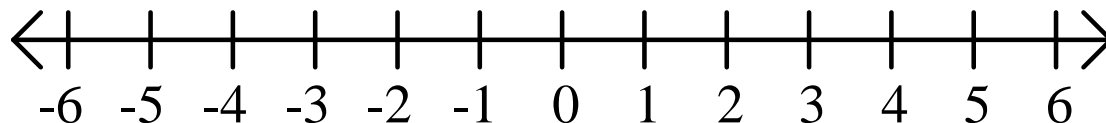
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Here is the graph.



Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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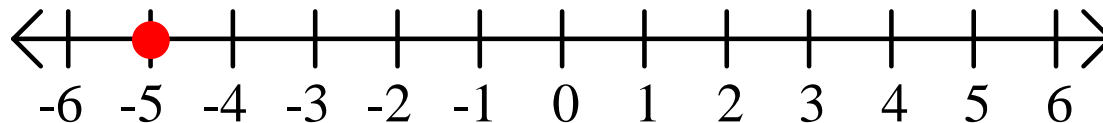
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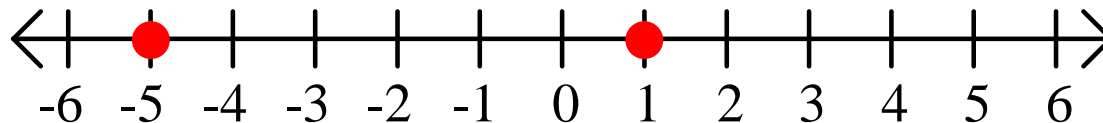
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Algebra I Class Worksheet #4 Unit 4

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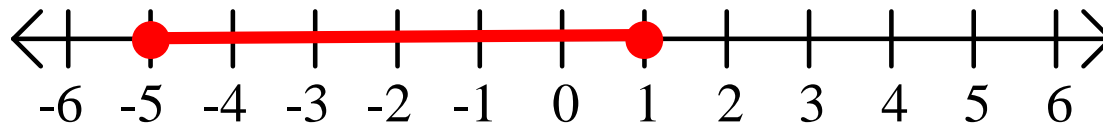
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Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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This continued inequality says 2 things about the variable x .

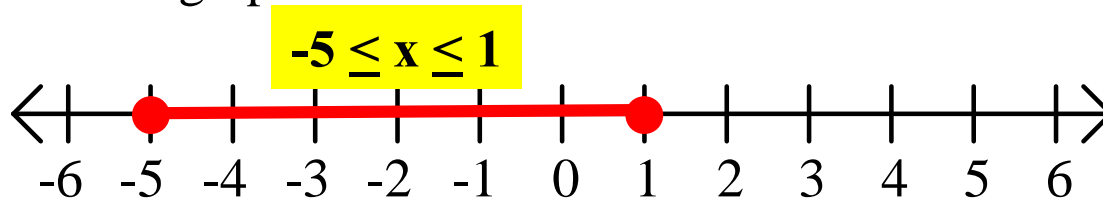
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Continued inequalities are read from the middle.

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Here is the graph.



Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

$$0 \leq x < 5$$

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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First: $0 \leq x$ means

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

$$0 \leq x < 5$$

This continued inequality says 2 things about the variable x .

First: $0 \leq x$ means x is greater than or equal to 0.

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

$$0 \leq x < 5$$

This continued inequality says 2 things about the variable x .

First: $0 \leq x$ means **x is greater than or equal to 0.**

Second:

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

$$0 \leq x < 5$$

This continued inequality says 2 things about the variable x .

First: $0 \leq x$ means **x is greater than or equal to 0.**

Second: $x < 5$

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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This continued inequality says 2 things about the variable x .

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Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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This continued inequality says 2 things about the variable x .

First: $0 \leq x$ means **x is greater than or equal to 0.**

Second: $x < 5$ means **x is less than 5.**

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

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This continued inequality says 2 things about the variable x .

First: $0 \leq x$ means **x is greater than or equal to 0.**

Second: $x < 5$ means **x is less than 5.**

Continued inequalities are read from the middle.

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example: $0 \leq x < 5$

This continued inequality says 2 things about the variable x .

First: $0 \leq x$ means x is greater than or equal to 0.

Second: $x < 5$ means x is less than 5.

Continued inequalities are read from the middle.

$$0 \leq x < 5$$

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example: $0 \leq x < 5$

This continued inequality says 2 things about the variable x .

First: $0 \leq x$ means **x is greater than or equal to 0.**

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Continued inequalities are read from the middle.

$0 \leq x < 5$ is read

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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First: $0 \leq x$ means x is greater than or equal to 0.

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Algebra I Class Worksheet #4 Unit 4

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First: $0 \leq x$ means **x is greater than or equal to 0.**

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Continued inequalities are read from the middle.

$0 \leq x < 5$ is read ' **x is greater than or equal to 0 and less than 5**'.

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First: $0 \leq x$ means **x is greater than or equal to 0.**

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Continued inequalities are read from the middle.

$0 \leq x < 5$ is read **' x is greater than or equal to 0 and less than 5'**.

Algebra I Class Worksheet #4 Unit 4

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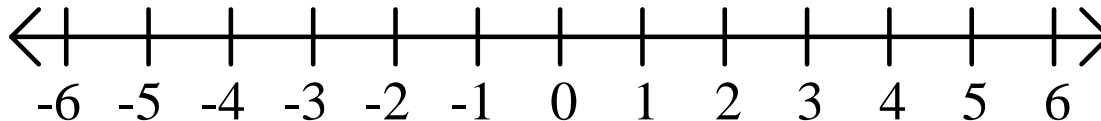
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Here is the graph.



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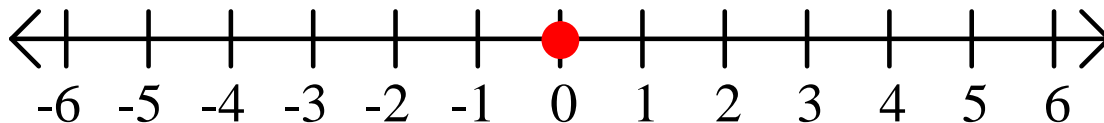
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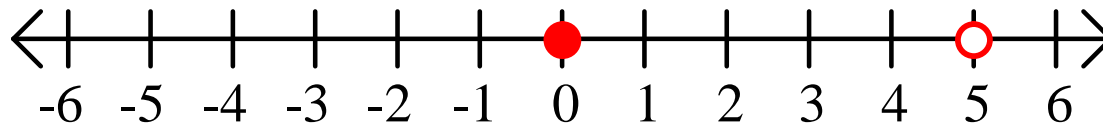
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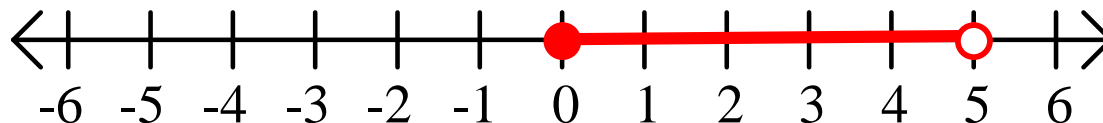
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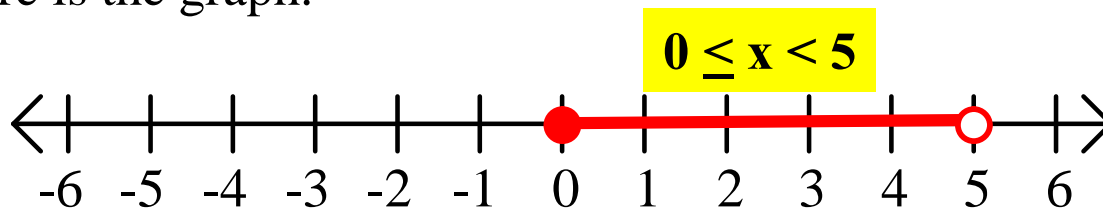
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Second: $x < 5$ means x is less than 5.

Continued inequalities are read from the middle.

$0 \leq x < 5$ is read 'x is greater than or equal to 0 and less than 5'.

Here is the graph.



Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

$$-4 < x \leq -1$$

Algebra I Class Worksheet #4 Unit 4

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Continued Inequalities

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$$-4 < x \leq -1$$

This continued inequality says 2 things about the variable x .

First: $-4 < x$ means **x is greater than -4 .**

Second: $x \leq -1$ means

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

$$-4 < x \leq -1$$

This continued inequality says 2 things about the variable x .

First: $-4 < x$ means **x is greater than -4 .**

Second: $x \leq -1$ means **x is less than or equal to -1 .**

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

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This continued inequality says 2 things about the variable x .

First: $-4 < x$ means **x is greater than -4 .**

Second: $x \leq -1$ means **x is less than or equal to -1 .**

Continued inequalities are read from the middle.

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example:

$$-4 < x \leq -1$$

This continued inequality says 2 things about the variable x .

First: $-4 < x$ means **x is greater than -4 .**

Second: $x \leq -1$ means **x is less than or equal to -1 .**

Continued inequalities are read from the middle.

$$-4 < x \leq -1$$

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example: $-4 < x \leq -1$

This continued inequality says 2 things about the variable x .

First: $-4 < x$ means **x is greater than -4 .**

Second: $x \leq -1$ means **x is less than or equal to -1 .**

Continued inequalities are read from the middle.

$-4 < x \leq -1$ is read

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example: $-4 < x \leq -1$

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First: $-4 < x$ means **x is greater than -4 .**

Second: $x \leq -1$ means **x is less than or equal to -1 .**

Continued inequalities are read from the middle.

$-4 < x \leq -1$ is read **x is greater than -4**

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example: $-4 < x \leq -1$

This continued inequality says 2 things about the variable x .

First: $-4 < x$ means **x is greater than -4 .**

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Continued inequalities are read from the middle.

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Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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First: $-4 < x$ means **x is greater than -4 .**

Second: $x \leq -1$ means **x is less than or equal to -1 .**

Continued inequalities are read from the middle.

$-4 < x \leq -1$ is read **' x is greater than -4 and less than or equal to -1 '.**

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example: $-4 < x \leq -1$

This continued inequality says 2 things about the variable x .

First: $-4 < x$ means **x is greater than -4 .**

Second: $x \leq -1$ means **x is less than or equal to -1 .**

Continued inequalities are read from the middle.

$-4 < x \leq -1$ is read **' x is greater than -4 and less than or equal to -1 '.**

Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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This continued inequality says 2 things about the variable x .

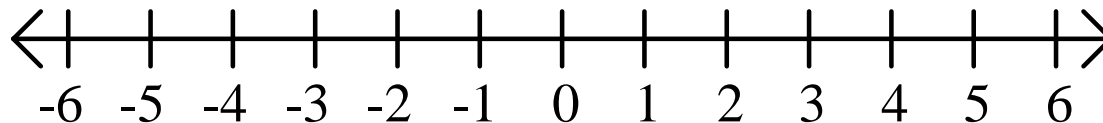
First: $-4 < x$ means **x is greater than -4 .**

Second: $x \leq -1$ means **x is less than or equal to -1 .**

Continued inequalities are read from the middle.

$-4 < x \leq -1$ is read **' x is greater than -4 and less than or equal to -1 '.**

Here is the graph.



Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example: $-4 < x \leq -1$

This continued inequality says 2 things about the variable x .

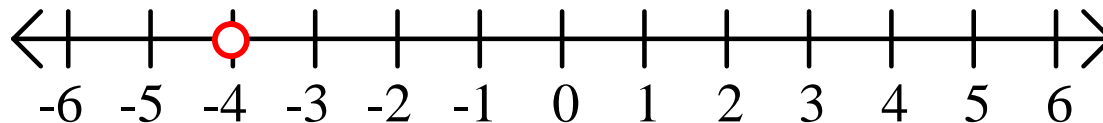
First: $-4 < x$ means **x is greater than -4 .**

Second: $x \leq -1$ means **x is less than or equal to -1 .**

Continued inequalities are read from the middle.

$-4 < x \leq -1$ is read **' x is greater than -4 and less than or equal to -1 '.**

Here is the graph.



Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

Example: $-4 < x \leq -1$

This continued inequality says 2 things about the variable x .

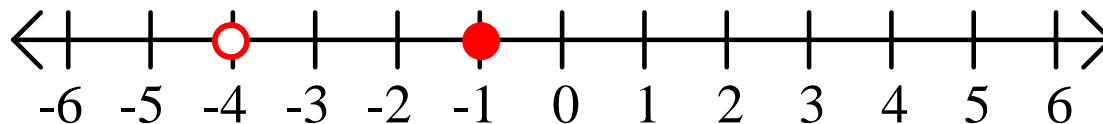
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Continued inequalities are read from the middle.

$-4 < x \leq -1$ is read **' x is greater than -4 and less than or equal to -1'**.

Here is the graph.



Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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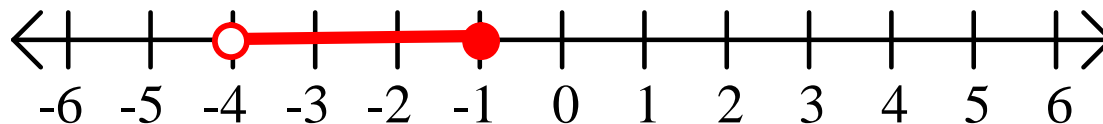
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Continued inequalities are read from the middle.

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Here is the graph.



Algebra I Class Worksheet #4 Unit 4

Continued Inequalities

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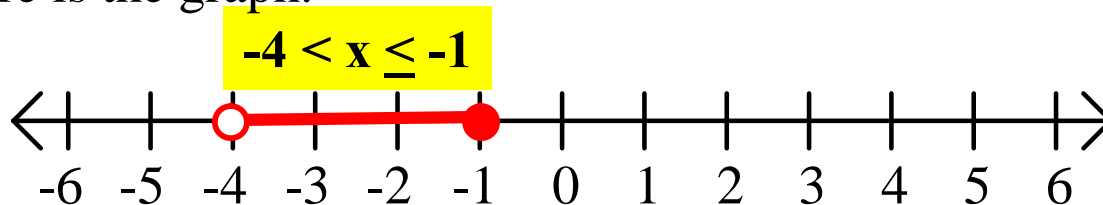
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Continued inequalities are read from the middle.

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Here is the graph.



Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-5 < 2x - 3 < 1$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-5 < 2x - 3 < 1$

Solving continued inequalities is just like solving other inequalities except there are 3 parts.

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-5 < 2x - 3 < 1$

Solving continued inequalities is just like solving other inequalities except there are 3 parts

$$-5 < 2x - 3 < 1$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-5 < 2x - 3 < 1$

Solving continued inequalities is just like solving other inequalities except there are 3 parts

Step 1:

$$-5 < 2x - 3 < 1$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-5 < 2x - 3 < 1$

Solving continued inequalities is just like solving other inequalities except there are 3 parts

Step 1: Add 3 to each part.

$$-5 < 2x - 3 < 1$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-5 < 2x - 3 < 1$

Solving continued inequalities is just like solving other inequalities except there are 3 parts

Step 1: Add 3 to each part.

$$\begin{array}{r} -5 < 2x - 3 < 1 \\ +3 \qquad +3 \quad +3 \\ \hline \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-5 < 2x - 3 < 1$

Solving continued inequalities is just like solving other inequalities except there are 3 parts

Step 1: Add 3 to each part.

$$\begin{array}{r} -5 < 2x - 3 < 1 \\ +3 \qquad +3 \quad +3 \\ \hline -2 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-5 < 2x - 3 < 1$

Solving continued inequalities is just like solving other inequalities except there are 3 parts

Step 1: Add 3 to each part.

$$\begin{array}{r} -5 < 2x - 3 < 1 \\ +3 \quad \quad +3 \quad +3 \\ \hline -2 < \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-5 < 2x - 3 < 1$

Solving continued inequalities is just like solving other inequalities except there are 3 parts

Step 1: Add 3 to each part.

$$\begin{array}{r} -5 < 2x - 3 < 1 \\ +3 \qquad +3 \quad +3 \\ \hline -2 < 2x \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-5 < 2x - 3 < 1$

Solving continued inequalities is just like solving other inequalities except there are 3 parts

Step 1: Add 3 to each part.

$$\begin{array}{r} -5 < 2x - 3 < 1 \\ +3 \quad \quad +3 \quad +3 \\ \hline -2 < 2x < \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-5 < 2x - 3 < 1$

Solving continued inequalities is just like solving other inequalities except there are 3 parts

Step 1: Add 3 to each part.

$$\begin{array}{r} -5 < 2x - 3 < 1 \\ +3 \quad \quad +3 \quad +3 \\ \hline -2 < 2x < 4 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-5 < 2x - 3 < 1$

Solving continued inequalities is just like solving other inequalities except there are 3 parts

Step 1: Add 3 to each part.

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Step 2:

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Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-5 < 2x - 3 < 1$

Solving continued inequalities is just like solving other inequalities except there are 3 parts

Step 1: Add 3 to each part.

$$\begin{array}{r} -5 < 2x - 3 < 1 \\ +3 \quad \quad +3 \quad +3 \\ \hline \end{array}$$

Step 2: Divide each part by 2.

$$-2 < 2x < 4$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

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Step 1: Add 3 to each part.

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Step 2: Divide each part by 2.

$$\frac{-2}{2} < \frac{2x}{2} < \frac{4}{2}$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

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Solving continued inequalities is just like solving other inequalities except there are 3 parts

Step 1: Add 3 to each part.

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Step 2: Divide each part by 2.

$$\begin{array}{r} -2 < 2x < 4 \\ \frac{-2}{2} < \frac{2x}{2} < \frac{4}{2} \\ -1 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

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Solving continued inequalities is just like solving other inequalities except there are 3 parts

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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Step 2: Divide each part by 2.

$$\begin{array}{r} -2 < 2x < 4 \\ \frac{-2}{2} < \frac{2x}{2} < \frac{4}{2} \end{array}$$

Step 3:

$$-1 < x < 2$$

Algebra I Class Worksheet #4 Unit 4

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Step 1: Add 3 to each part.

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Step 2: Divide each part by 2.

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Step 3: Graph the solution set.

$$-1 < x < 2$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-5 < 2x - 3 < 1$

Solving continued inequalities is just like solving other inequalities except there are 3 parts

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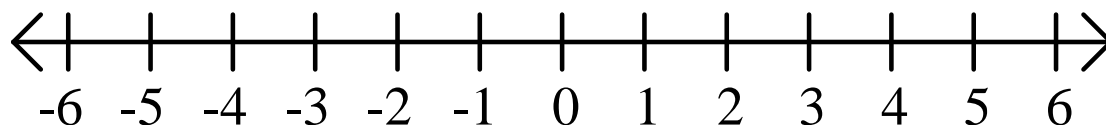
$$\begin{array}{r} -5 < 2x - 3 < 1 \\ +3 \quad +3 \quad +3 \\ \hline \end{array}$$

Step 2: Divide each part by 2.

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Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

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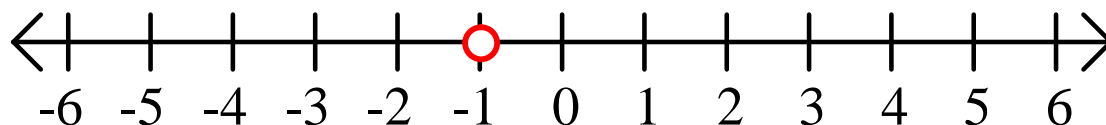
$$\begin{array}{r} -5 < 2x - 3 < 1 \\ +3 \quad +3 \quad +3 \\ \hline \end{array}$$

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Algebra I Class Worksheet #4 Unit 4

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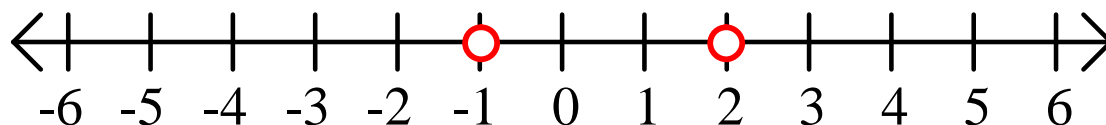
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$$\frac{-2}{2} < \frac{2x}{2} < \frac{4}{2}$$

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$$-1 < x < 2$$



Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

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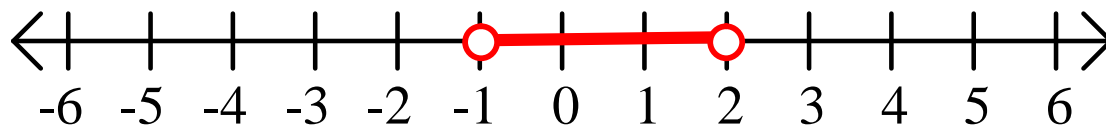
$$\begin{array}{r} -5 < 2x - 3 < 1 \\ +3 \quad +3 \quad +3 \\ \hline \end{array}$$

Step 2: Divide each part by 2.

$$\frac{-2}{2} < \frac{2x}{2} < \frac{4}{2}$$

Step 3: Graph the solution set.

$$-1 < x < 2$$



Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

$$-9 \leq 3x + 6 \leq 12$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1:

$$-9 \leq 3x + 6 \leq 12$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$-9 \leq 3x + 6 \leq 12$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad \quad -6 \quad -6 \\ \hline \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad \quad -6 \quad -6 \\ \hline -15 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad \quad -6 \quad -6 \\ \hline -15 \leq \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad \quad -6 \quad -6 \\ \hline -15 \leq 3x \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad \quad -6 \quad -6 \\ \hline -15 \leq 3x \leq \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad \quad -6 \quad -6 \\ \hline -15 \leq 3x \leq 6 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad \quad -6 \quad -6 \\ \hline \end{array}$$

Step 2:

$$-15 \leq 3x \leq 6$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad \quad -6 \quad -6 \\ \hline \end{array}$$

Step 2: Divide each part by 3.

$$-15 \leq 3x \leq 6$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad \quad -6 \quad -6 \\ \hline \end{array}$$

Step 2: Divide each part by 3.

$$\begin{array}{r} -15 \leq 3x \leq 6 \\ \frac{-15}{3} \leq \frac{3x}{3} \leq \frac{6}{3} \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad -6 \quad -6 \\ \hline \end{array}$$

Step 2: Divide each part by 3.

$$\begin{array}{r} -15 \leq 3x \leq 6 \\ \frac{-15}{3} \leq \frac{3x}{3} \leq \frac{6}{3} \end{array}$$

$$-5$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad -6 \quad -6 \\ \hline \end{array}$$

Step 2: Divide each part by 3.

$$\frac{-15}{3} \leq \frac{3x}{3} \leq \frac{6}{3}$$

$$-5 \leq$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad -6 \quad -6 \\ \hline \end{array}$$

Step 2: Divide each part by 3.

$$\begin{array}{r} -15 \leq 3x \leq 6 \\ \frac{-15}{3} \leq \frac{3x}{3} \leq \frac{6}{3} \end{array}$$

$$-5 \leq x$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad -6 \quad -6 \\ \hline \end{array}$$

Step 2: Divide each part by 3.

$$\frac{-15}{3} \leq \frac{3x}{3} \leq \frac{6}{3}$$

$$-5 \leq x \leq$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad -6 \quad -6 \\ \hline \end{array}$$

Step 2: Divide each part by 3.

$$\frac{-15}{3} \leq \frac{3x}{3} \leq \frac{6}{3}$$

$$-5 \leq x \leq 2$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad -6 \quad -6 \\ \hline \end{array}$$

Step 2: Divide each part by 3.

$$\begin{array}{r} -15 \leq 3x \leq 6 \\ 3 \quad 3 \quad 3 \end{array}$$

$$-5 \leq x \leq 2$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad -6 \quad -6 \\ \hline \end{array}$$

Step 2: Divide each part by 3.

$$\begin{array}{r} -15 \leq 3x \leq 6 \\ 3 \quad 3 \quad 3 \end{array}$$

Step 3:

$$-5 \leq x \leq 2$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad -6 \quad -6 \\ \hline \end{array}$$

Step 2: Divide each part by 3.

$$\begin{array}{r} -15 \leq 3x \leq 6 \\ 3 \quad 3 \quad 3 \end{array}$$

Step 3: Graph the solution set.

$$-5 \leq x \leq 2$$

Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

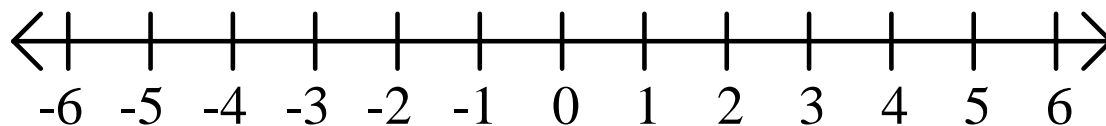
$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad -6 \quad -6 \\ \hline \end{array}$$

Step 2: Divide each part by 3.

$$\frac{-15}{3} \leq \frac{3x}{3} \leq \frac{6}{3}$$

Step 3: Graph the solution set.

$$-5 \leq x \leq 2$$



Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

Example: $-9 \leq 3x + 6 \leq 12$

Step 1: Subtract 6 from each part.

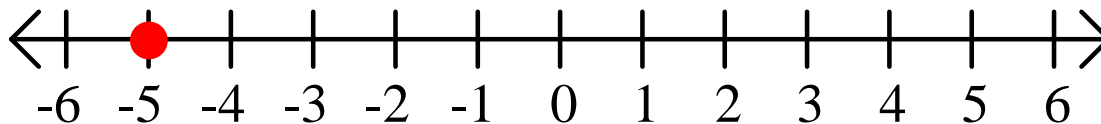
$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad -6 \quad -6 \\ \hline \end{array}$$

Step 2: Divide each part by 3.

$$\frac{-15}{3} \leq \frac{3x}{3} \leq \frac{6}{3}$$

Step 3: Graph the solution set.

$$-5 \leq x \leq 2$$



Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

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Step 1: Subtract 6 from each part.

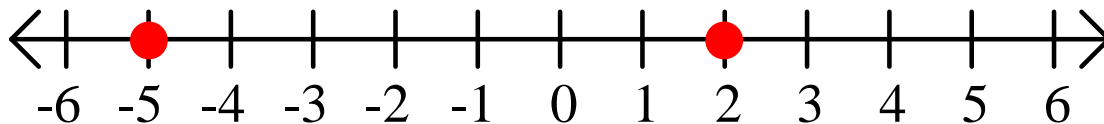
$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad -6 \quad -6 \\ \hline \end{array}$$

Step 2: Divide each part by 3.

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Step 3: Graph the solution set.

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Algebra I Class Worksheet #4 Unit 4

Solving Continued Inequalities

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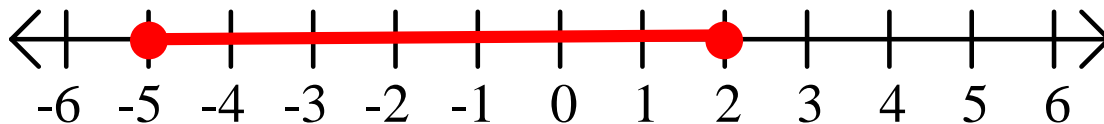
$$\begin{array}{r} -9 \leq 3x + 6 \leq 12 \\ -6 \quad -6 \quad -6 \\ \hline \end{array}$$

Step 2: Divide each part by 3.

$$\begin{array}{r} -15 \leq 3x \leq 6 \\ 3 \quad 3 \quad 3 \end{array}$$

Step 3: Graph the solution set.

$$-5 \leq x \leq 2$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $x + 1 < 5$ and $3x > -9$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$x + 1 < 5 \text{ and } 3x > -9$$

Step 1: Solve each inequality.

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$x + 1 < 5 \text{ and } 3x > -9$$

Step 1: Solve each inequality.

$$x + 1 < 5 \text{ and } 3x > -9$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$x + 1 < 5 \text{ and } 3x > -9$$

Step 1: Solve each inequality.

$$\begin{array}{r} x + 1 < 5 \text{ and } 3x > -9 \\ \underline{-1 \quad -1} \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$x + 1 < 5 \text{ and } 3x > -9$$

Step 1: Solve each inequality.

$$\begin{array}{r} x + 1 < 5 \text{ and } 3x > -9 \\ -1 \quad -1 \\ \hline x \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$x + 1 < 5 \text{ and } 3x > -9$$

Step 1: Solve each inequality.

$$\begin{array}{r} x + 1 < 5 \text{ and } 3x > -9 \\ -1 \quad -1 \\ \hline x < \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$x + 1 < 5 \text{ and } 3x > -9$$

Step 1: Solve each inequality.

$$\begin{array}{r} x + 1 < 5 \text{ and } 3x > -9 \\ -1 \quad -1 \\ \hline x < 4 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $x + 1 < 5$ and $3x > -9$

Step 1: Solve each inequality.

$$\begin{array}{r} x + 1 < 5 \quad \text{and} \quad \frac{3x}{3} > \frac{-9}{3} \\ \underline{-1 \quad -1} \\ x < 4 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$x + 1 < 5 \text{ and } 3x > -9$$

Step 1: Solve each inequality.

$$\begin{array}{r} x + 1 < 5 \text{ and } \frac{3x}{3} > \frac{-9}{3} \\ \hline x < 4 \qquad \qquad x > -3 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$x + 1 < 5 \text{ and } 3x > -9$$

Step 1: Solve each inequality.

$$\begin{array}{r} x + 1 < 5 \text{ and } \frac{3x}{3} > \frac{-9}{3} \\ \hline -1 \quad -1 \end{array}$$

Step 2:

$$\begin{array}{r} x < 4 \quad \quad x > -3 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $x + 1 < 5$ and $3x > -9$

Step 1: Solve each inequality.

$$\begin{array}{r} x + 1 < 5 \quad \text{and} \quad \frac{3x}{3} > \frac{-9}{3} \\ -1 \quad -1 \qquad \qquad \qquad \\ \hline x < 4 \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$x > -3$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

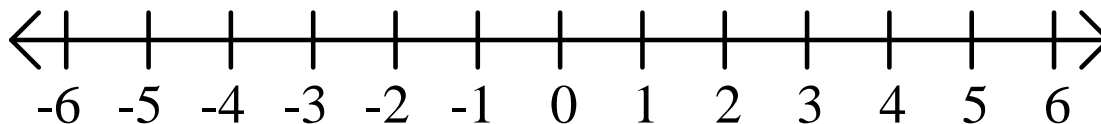
$$x + 1 < 5 \text{ and } 3x > -9$$

Step 1: Solve each inequality.

$$\begin{array}{r} x + 1 < 5 \text{ and } \frac{3x}{3} > \frac{-9}{3} \\ \hline x - 1 < 4 \text{ and } x > -3 \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$x < 4 \quad x > -3$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

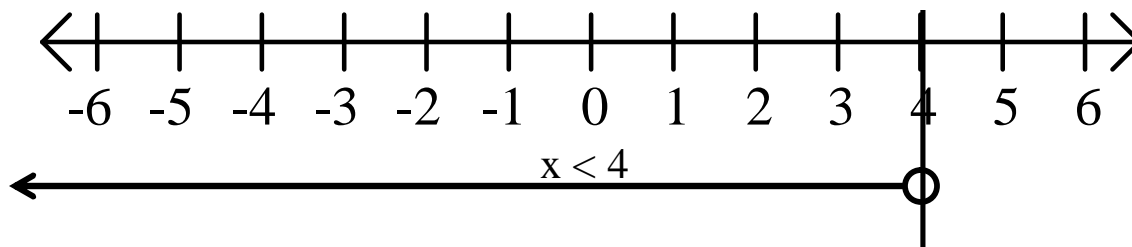
$$x + 1 < 5 \text{ and } 3x > -9$$

Step 1: Solve each inequality.

$$\begin{array}{r} x + 1 < 5 \text{ and } \frac{3x}{3} > \frac{-9}{3} \\ \hline x - 1 < 4 \text{ and } x > -3 \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$x < 4 \quad x > -3$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

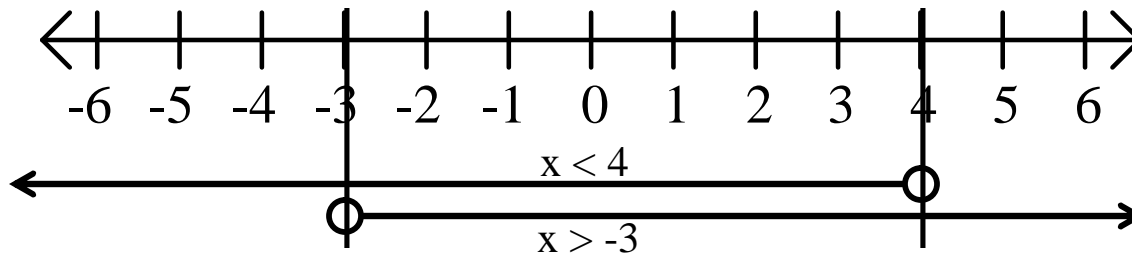
$$x + 1 < 5 \text{ and } 3x > -9$$

Step 1: Solve each inequality.

$$\begin{array}{r} x + 1 < 5 \text{ and } \frac{3x}{3} > \frac{-9}{3} \\ \hline x - 1 < 4 \text{ and } x > -3 \end{array}$$

Step 2: Graph the intersection of the two solution sets.

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

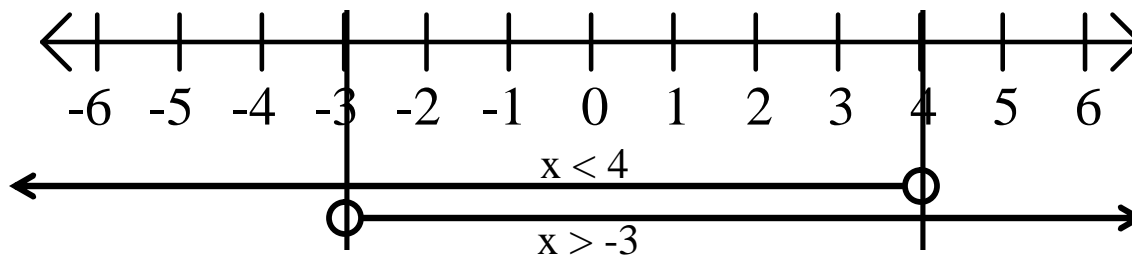
$$x + 1 < 5 \text{ and } 3x > -9$$

Step 1: Solve each inequality.

$$\begin{array}{r} x + 1 < 5 \text{ and } \frac{3x}{3} > \frac{-9}{3} \\ \hline x - 1 < 4 \text{ and } x > -3 \end{array}$$

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$$x < 4 \text{ and } x > -3$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

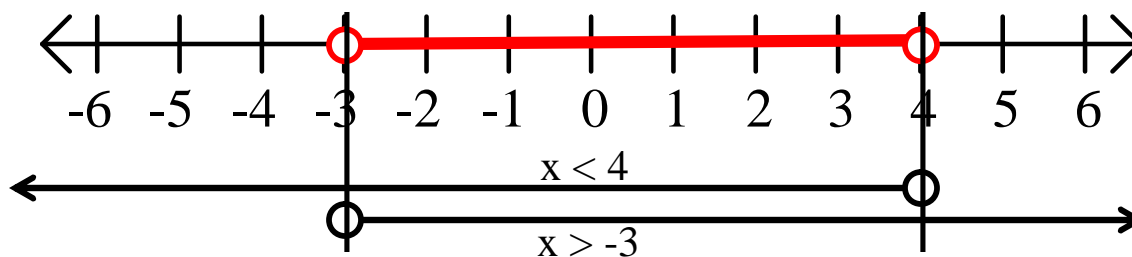
$$x + 1 < 5 \text{ and } 3x > -9$$

Step 1: Solve each inequality.

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Step 2: Graph the intersection of the two solution sets.

$$x < 4 \text{ and } x > -3$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

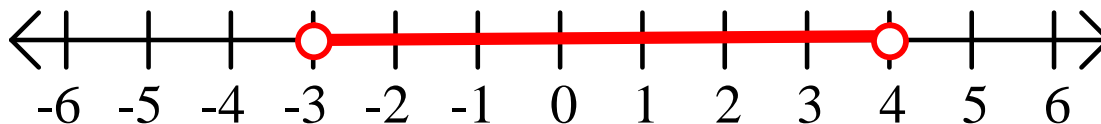
$$x + 1 < 5 \text{ and } 3x > -9$$

Step 1: Solve each inequality.

$$\begin{array}{r} x + 1 < 5 \text{ and } \frac{3x}{3} > \frac{-9}{3} \\ \hline x - 1 < 4 \text{ and } x > -3 \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$x < 4 \text{ and } x > -3$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$x + 1 < 5 \text{ and } 3x > -9$$

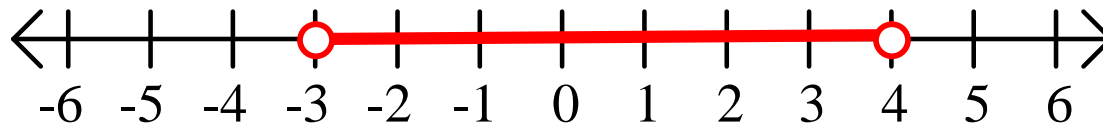
Step 1: Solve each inequality.

$$\begin{array}{r} x + 1 < 5 \text{ and } \frac{3x}{3} > \frac{-9}{3} \\ \hline x - 1 < 4 \text{ and } x > -3 \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$x < 4 \text{ and } x > -3$$

Step 3:



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$x + 1 < 5 \text{ and } 3x > -9$$

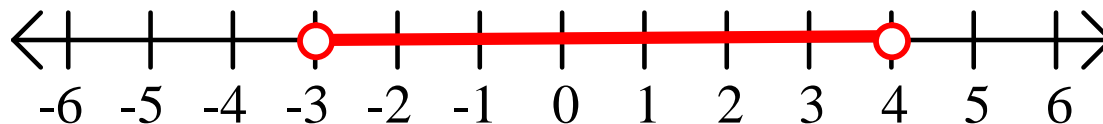
Step 1: Solve each inequality.

$$\begin{array}{r} x + 1 < 5 \text{ and } \frac{3x}{3} > \frac{-9}{3} \\ \hline x - 1 < 4 \text{ and } x > -3 \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$x < 4 \text{ and } x > -3$$

Step 3: Express the final solution in terms of x in simplest form.



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$x + 1 < 5 \text{ and } 3x > -9$$

Step 1: Solve each inequality.

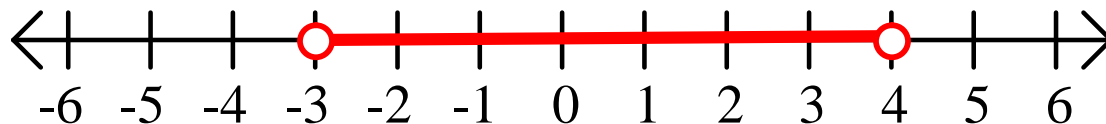
$$\begin{array}{r} x + 1 < 5 \text{ and } \frac{3x}{3} > \frac{-9}{3} \\ \hline x - 1 < 4 \text{ and } x > -3 \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$x < 4 \text{ and } x > -3$$

Step 3: Express the final solution in terms of x in simplest form.

$$-3 < x < 4$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $2x - 1 > -5$ and $5x + 3 > 18$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Step 1: Solve each inequality.

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $2x - 1 > -5$ and $5x + 3 > 18$

Step 1: Solve each inequality.

$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $2x - 1 > -5$ and $5x + 3 > 18$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \quad \text{and} \quad 5x + 3 > 18 \\ +1 \quad +1 \\ \hline \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $2x - 1 > -5$ and $5x + 3 > 18$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \quad \text{and} \quad 5x + 3 > 18 \\ +1 \quad +1 \\ \hline 2x \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $2x - 1 > -5$ and $5x + 3 > 18$

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$$\begin{array}{r} 2x - 1 > -5 \quad \text{and} \quad 5x + 3 > 18 \\ +1 \quad +1 \\ \hline 2x > \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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$$\begin{array}{r} 2x - 1 > -5 \quad \text{and} \quad 5x + 3 > 18 \\ +1 \quad +1 \\ \hline 2x > -4 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $2x - 1 > -5$ and $5x + 3 > 18$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \quad \text{and} \quad 5x + 3 > 18 \\ +1 \quad +1 \\ \hline \frac{2x}{2} > \frac{-4}{2} \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $2x - 1 > -5$ and $5x + 3 > 18$

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$$\begin{array}{r} 2x - 1 > -5 \quad \text{and} \quad 5x + 3 > 18 \\ +1 \quad +1 \\ \hline 2x > -4 \\ \frac{2x}{2} > \frac{-4}{2} \\ x \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Step 1: Solve each inequality.

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \text{ and } 5x + 3 > 18 \\ +1 \quad +1 \\ \hline 2x > -4 \\ \frac{2x}{2} > \frac{-4}{2} \\ x > -2 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \text{ and } 5x + 3 > 18 \\ +1 \quad +1 \qquad \qquad \qquad -3 \quad -3 \\ \hline 2x > -4 \qquad \qquad \qquad 5x > 15 \\ \frac{2x}{2} > \frac{-4}{2} \qquad \qquad \qquad \frac{5x}{5} > \frac{15}{5} \\ x > -2 \qquad \qquad \qquad x > 3 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $2x - 1 > -5$ and $5x + 3 > 18$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \quad \text{and} \quad 5x + 3 > 18 \\ +1 \quad +1 \qquad \qquad \qquad -3 \quad -3 \\ \hline 2x > -4 \qquad \qquad \qquad 5x \\ \frac{2x}{2} > \frac{-4}{2} \qquad \qquad \qquad \\ x > -2 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $2x - 1 > -5$ and $5x + 3 > 18$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \\ +1 \quad +1 \\ \hline 2x > -4 \\ \frac{2x}{2} > \frac{-4}{2} \\ x > -2 \end{array} \quad \text{and} \quad \begin{array}{r} 5x + 3 > 18 \\ -3 \quad -3 \\ \hline 5x > 15 \\ \frac{5x}{5} > \frac{15}{5} \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $2x - 1 > -5$ and $5x + 3 > 18$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \\ +1 \quad +1 \\ \hline 2x > -4 \\ \frac{2x}{2} > \frac{-4}{2} \\ x > -2 \end{array} \quad \text{and} \quad \begin{array}{r} 5x + 3 > 18 \\ -3 \quad -3 \\ \hline 5x > 15 \\ \frac{5x}{5} > \frac{15}{5} \\ x > 3 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \\ +1 \quad +1 \\ \hline 2x > -4 \\ \frac{2x}{2} > \frac{-4}{2} \\ x > -2 \end{array} \quad \text{and} \quad \begin{array}{r} 5x + 3 > 18 \\ -3 \quad -3 \\ \hline 5x > 15 \\ \frac{5x}{5} > \frac{15}{5} \\ x > 3 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \text{ and } 5x + 3 > 18 \\ +1 \quad +1 \qquad \qquad \qquad -3 \quad -3 \\ \hline \end{array}$$

Step 2:

$$\begin{array}{r} 2x > -4 \qquad \qquad \qquad 5x > 15 \\ \underline{2} \quad \underline{2} \qquad \qquad \qquad \underline{5} \quad \underline{5} \\ x > -2 \qquad \qquad \qquad x > 3 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \text{ and } 5x + 3 > 18 \\ +1 \quad +1 \qquad \qquad \qquad -3 \quad -3 \\ \hline \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} 2x > -4 \qquad \qquad \qquad 5x > 15 \\ \frac{2x}{2} > \frac{-4}{2} \qquad \qquad \qquad \frac{5x}{5} > \frac{15}{5} \\ x > -2 \qquad \qquad \qquad x > 3 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

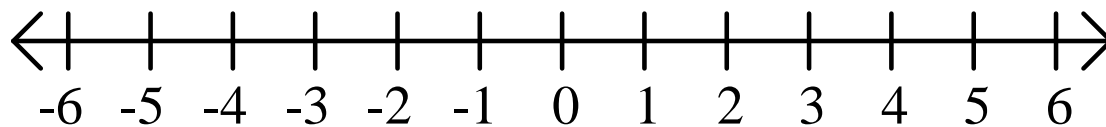
Example: $2x - 1 > -5$ and $5x + 3 > 18$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \quad \text{and} \quad 5x + 3 > 18 \\ +1 \quad +1 \qquad \qquad \qquad -3 \quad -3 \\ \hline \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} 2x > -4 \qquad \qquad \qquad 5x > 15 \\ \underline{2} \quad \underline{2} \qquad \qquad \qquad \underline{5} \quad \underline{5} \\ x > -2 \qquad \qquad \qquad x > 3 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

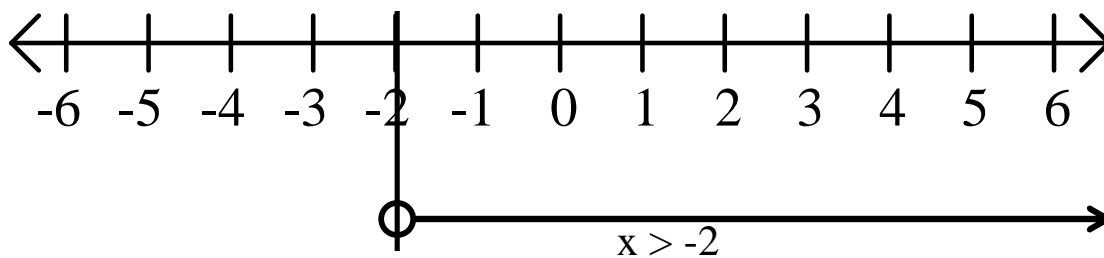
$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \text{ and } 5x + 3 > 18 \\ +1 \quad +1 \qquad \qquad \qquad -3 \quad -3 \\ \hline \end{array}$$

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and \emptyset

Example:

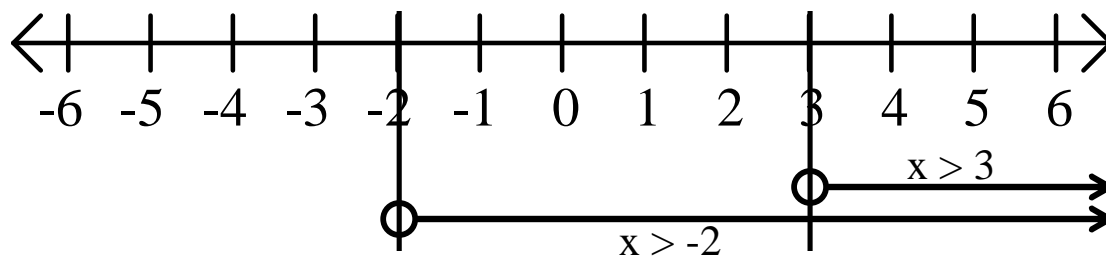
$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \text{ and } 5x + 3 > 18 \\ +1 \quad +1 \qquad \qquad \quad -3 \quad -3 \\ \hline \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} 2x > -4 \qquad \qquad \quad 5x > 15 \\ \frac{2x}{2} > \frac{-4}{2} \qquad \qquad \quad \frac{5x}{5} > \frac{15}{5} \\ x > -2 \qquad \qquad \qquad x > 3 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

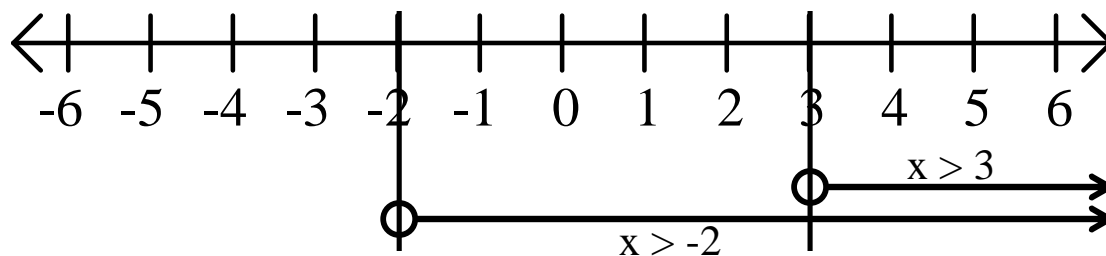
$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \text{ and } 5x + 3 > 18 \\ +1 \quad +1 \qquad \qquad \quad -3 \quad -3 \\ \hline \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} 2x > -4 \qquad \qquad \quad 5x > 15 \\ \frac{2x}{2} > \frac{-4}{2} \qquad \qquad \quad \frac{5x}{5} > \frac{15}{5} \\ x > -2 \qquad \qquad \text{and} \qquad x > 3 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and and \emptyset

Example:

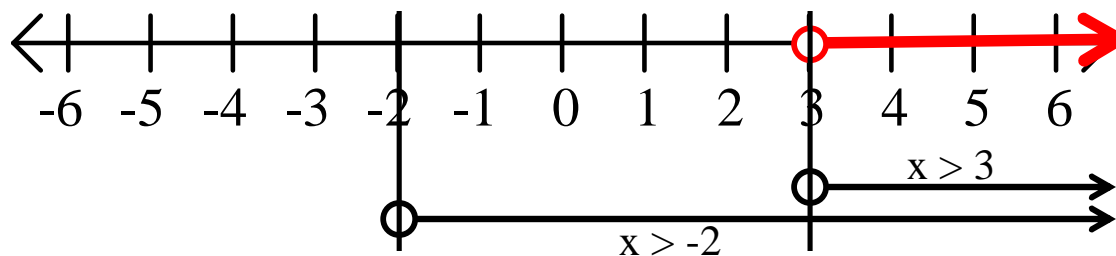
$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \text{ and } 5x + 3 > 18 \\ +1 \quad +1 \qquad \qquad \quad -3 \quad -3 \\ \hline \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} 2x > -4 \qquad \qquad \quad 5x > 15 \\ \frac{2x}{2} > \frac{-4}{2} \qquad \qquad \quad \frac{5x}{5} > \frac{15}{5} \\ x > -2 \qquad \qquad \text{and} \qquad x > 3 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

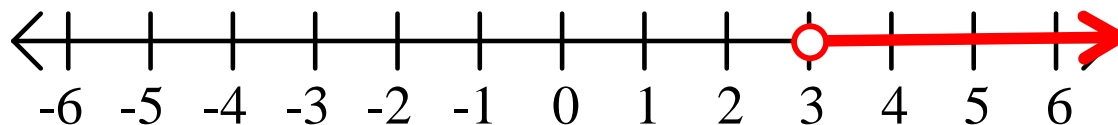
$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \text{ and } 5x + 3 > 18 \\ +1 \quad +1 \qquad \qquad -3 \quad -3 \\ \hline \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} 2x > -4 \qquad \qquad 5x > 15 \\ \frac{2x}{2} > \frac{-4}{2} \qquad \qquad \frac{5x}{5} > \frac{15}{5} \\ x > -2 \qquad \text{and} \qquad x > 3 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Step 1: Solve each inequality.

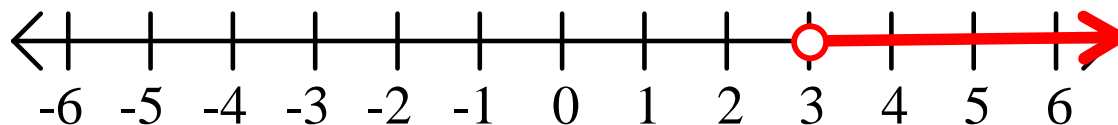
$$\begin{array}{r} 2x - 1 > -5 \text{ and } 5x + 3 > 18 \\ +1 \quad +1 \qquad \qquad \quad -3 \quad -3 \\ \hline \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} 2x > -4 \qquad \qquad \quad 5x > 15 \\ \frac{2x}{2} > \frac{-4}{2} \qquad \qquad \quad \frac{5x}{5} > \frac{15}{5} \\ \hline \end{array}$$

Step 3:

$$x > -2 \qquad \text{and} \qquad x > 3$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Step 1: Solve each inequality.

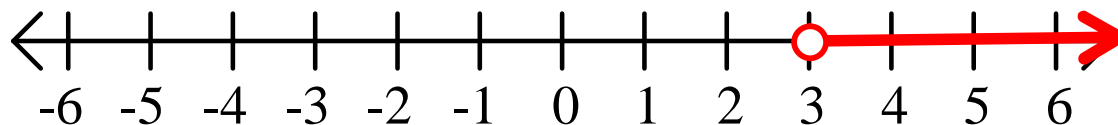
$$\begin{array}{r} 2x - 1 > -5 \\ +1 \quad +1 \\ \hline \end{array} \text{ and } \begin{array}{r} 5x + 3 > 18 \\ -3 \quad -3 \\ \hline \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} 2x > -4 \\ \frac{2x}{2} > \frac{-4}{2} \\ \hline \end{array} \quad \begin{array}{r} 5x > 15 \\ \frac{5x}{5} > \frac{15}{5} \\ \hline \end{array}$$

Step 3: Express the final solution in terms of x in simplest form.

$$x > -2 \quad \text{and} \quad x > 3$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$2x - 1 > -5 \text{ and } 5x + 3 > 18$$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \\ +1 \quad +1 \\ \hline \end{array} \text{ and } \begin{array}{r} 5x + 3 > 18 \\ -3 \quad -3 \\ \hline \end{array}$$

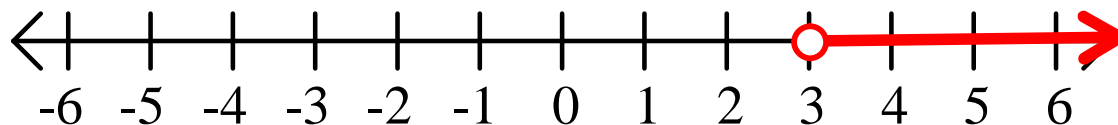
Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} 2x > -4 \\ \frac{2x}{2} > \frac{-4}{2} \\ \hline \end{array} \quad \begin{array}{r} 5x > 15 \\ \frac{5x}{5} > \frac{15}{5} \\ \hline \end{array}$$

Step 3: Express the final solution in terms of x in simplest form.

$$x > -2 \quad \text{and} \quad x > 3$$

$$x > 3$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$-4x + 6 \geq 14 \text{ and } 3x + 10 < 22$$

Step 1: Solve each inequality.

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Step 1: Solve each inequality.

$$-4x + 6 \geq 14 \text{ and } 3x + 10 < 22$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{and} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{and} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \\ -4x \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{and} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \\ -4x \geq \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{and} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \\ -4x \geq 8 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{and} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \\ -4x \geq 8 \\ \underline{-4 \quad -4} \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{and} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \\ -4x \geq 8 \\ \underline{-4 \quad -4} \\ x \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{and} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \\ -4x \geq 8 \\ \underline{-4 \quad -4} \\ x \leq \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{and} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \\ -4x \geq 8 \\ \underline{-4 \quad -4} \\ x \leq -2 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{and} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \underline{-10 \quad -10} \\ -4x \geq 8 \\ \underline{-4 \quad -4} \\ x \leq -2 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{and} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \qquad \underline{-10 \quad -10} \\ -4x \geq 8 \qquad \qquad \qquad 3x \\ \underline{-4 \quad -4} \\ x \leq -2 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{and} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \qquad \underline{-10 \quad -10} \\ -4x \geq 8 \qquad \qquad \qquad 3x < \\ \underline{-4 \quad -4} \\ x \leq -2 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{and} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \qquad \underline{-10 \quad -10} \\ -4x \geq 8 \qquad \qquad \qquad 3x < 12 \\ \underline{-4 \quad -4} \\ x \leq -2 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Step 1: Solve each inequality.

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$-4x + 6 \geq 14 \text{ and } 3x + 10 < 22$$

Step 1: Solve each inequality.

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $-4x + 6 \geq 14$ and $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{and} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \qquad \underline{-10 \quad -10} \\ -4x \geq 8 \qquad \qquad \qquad 3x < 12 \\ \underline{-4 \quad -4} \qquad \qquad \qquad \underline{3 \quad 3} \\ x \leq -2 \qquad \qquad \qquad x < 4 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$-4x + 6 \geq 14 \text{ and } 3x + 10 < 22$$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \text{ and } 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \underline{-10 \quad -10} \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} \underline{-4x \geq 8} \qquad \qquad \underline{3x < 12} \\ \underline{-4 \quad -4} \qquad \qquad \underline{3 \quad 3} \\ x \leq -2 \qquad \qquad x < 4 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

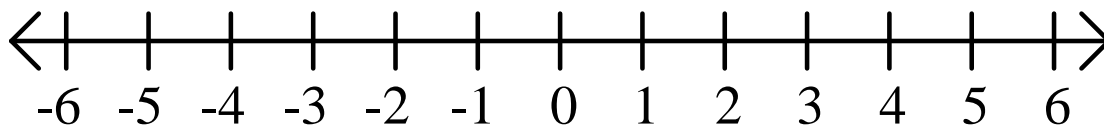
$$-4x + 6 \geq 14 \text{ and } 3x + 10 < 22$$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \text{ and } 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \underline{-10 \quad -10} \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} \underline{-4x \geq 8} \qquad \qquad \underline{3x < 12} \\ \underline{-4 \quad -4} \qquad \qquad \underline{3 \quad 3} \\ x \leq -2 \qquad \qquad \qquad x < 4 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and or

Example:

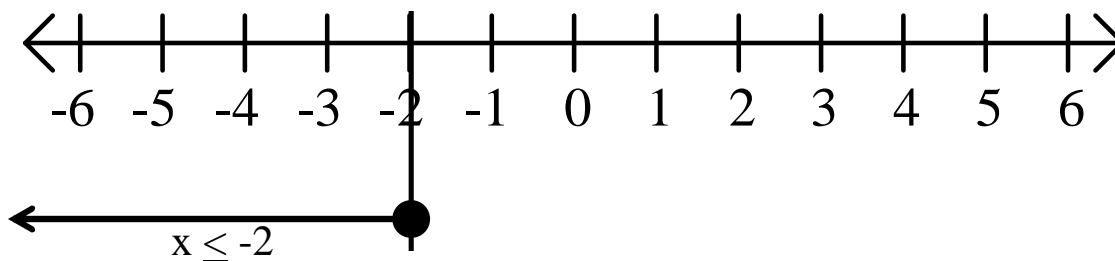
$$-4x + 6 \geq 14 \text{ and } 3x + 10 < 22$$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \text{ and } 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \underline{-10 \quad -10} \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} \underline{-4x \geq 8} \qquad \qquad \underline{3x < 12} \\ \underline{-4 \quad -4} \qquad \qquad \underline{3 \quad 3} \\ x \leq -2 \qquad \qquad \qquad x < 4 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and and or

Example:

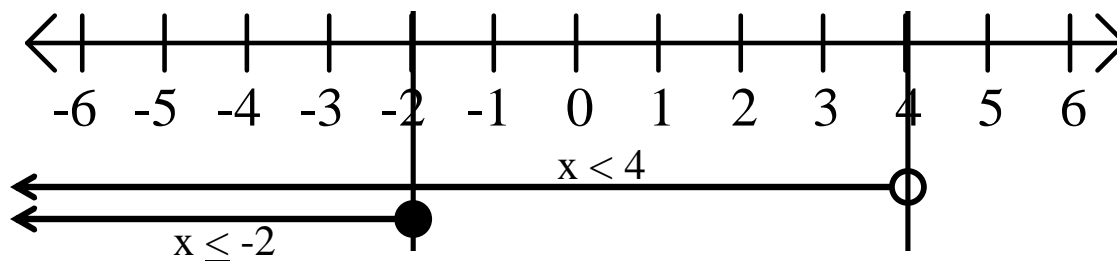
$$-4x + 6 \geq 14 \text{ and } 3x + 10 < 22$$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \text{ and } 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \underline{-10 \quad -10} \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} \underline{-4x \geq 8} \qquad \qquad \underline{3x < 12} \\ \underline{-4 \quad -4} \qquad \qquad \underline{3 \quad 3} \\ x \leq -2 \qquad \qquad \qquad x < 4 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and and or

Example:

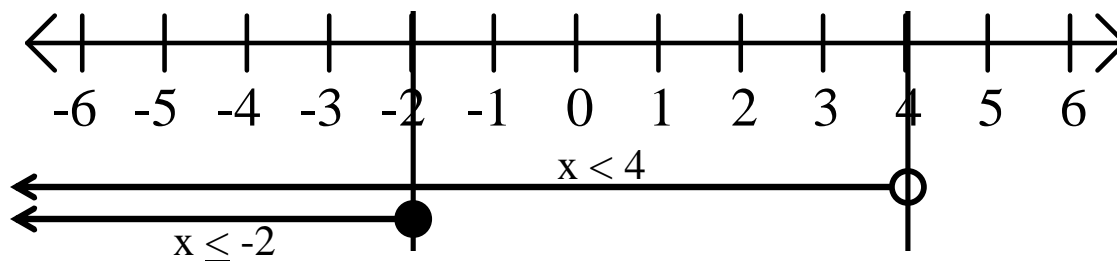
$$-4x + 6 \geq 14 \text{ and } 3x + 10 < 22$$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \text{ and } 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \underline{-10 \quad -10} \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} -4x \geq 8 \\ \underline{-4 \quad -4} \\ x \leq -2 \end{array} \qquad \text{and} \qquad \begin{array}{r} 3x < 12 \\ \underline{3 \quad 3} \\ x < 4 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and and \emptyset

Example:

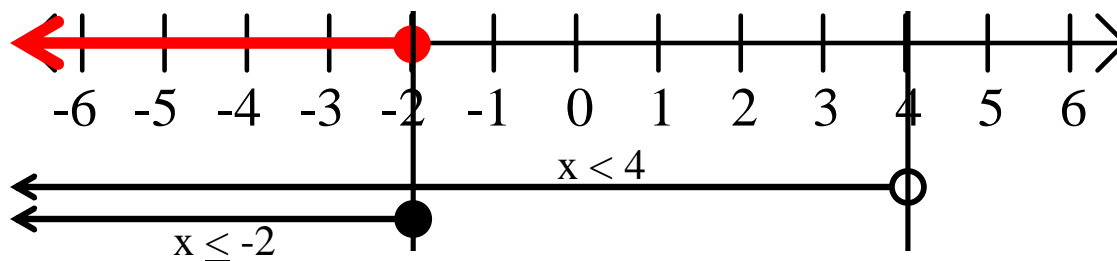
$$-4x + 6 \geq 14 \text{ and } 3x + 10 < 22$$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \text{ and } 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \underline{-10 \quad -10} \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} -4x \geq 8 \\ \underline{-4 \quad -4} \\ x \leq -2 \end{array} \qquad \text{and} \qquad \begin{array}{r} 3x < 12 \\ \underline{3 \quad 3} \\ x < 4 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

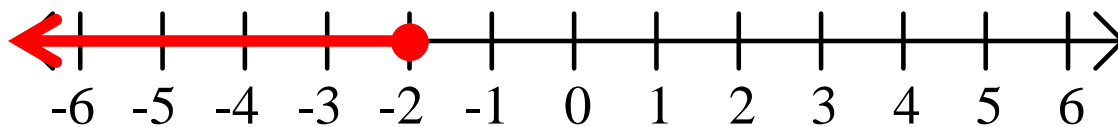
$$-4x + 6 \geq 14 \text{ and } 3x + 10 < 22$$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \text{ and } 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \underline{-10 \quad -10} \end{array}$$

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$$\begin{array}{r} \underline{-4x \geq 8} \qquad \qquad \underline{3x < 12} \\ \underline{-4 \quad -4} \qquad \qquad \underline{3 \quad 3} \\ x \leq -2 \qquad \text{and} \qquad x < 4 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$-4x + 6 \geq 14 \text{ and } 3x + 10 < 22$$

Step 1: Solve each inequality.

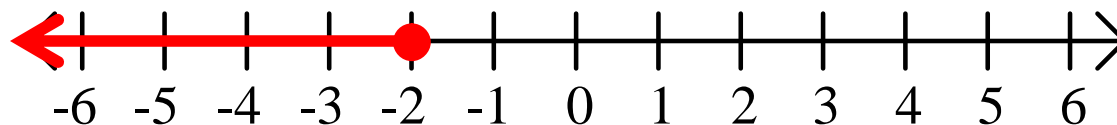
$$\begin{array}{r} -4x + 6 \geq 14 \text{ and } 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \underline{-10 \quad -10} \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} -4x \geq 8 \\ \underline{-4 \quad -4} \end{array} \qquad \begin{array}{r} 3x < 12 \\ \underline{3 \quad 3} \end{array}$$

Step 3: Express the final solution in terms of x in simplest form.

$$x \leq -2 \qquad \text{and} \qquad x < 4$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$-4x + 6 \geq 14 \text{ and } 3x + 10 < 22$$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \text{ and } 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \underline{-10 \quad -10} \end{array}$$

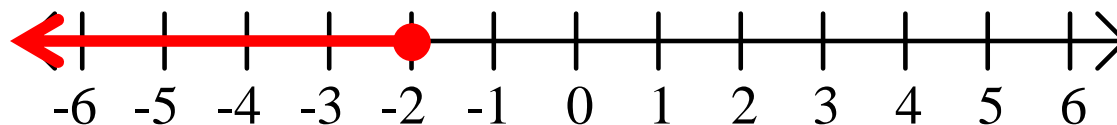
Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} -4x \geq 8 \\ \underline{-4 \quad -4} \end{array} \qquad \qquad \begin{array}{r} 3x < 12 \\ \underline{3 \quad 3} \end{array}$$

Step 3: Express the final solution in terms of x in simplest form.

$$x \leq -2 \qquad \text{and} \qquad x < 4$$

$$x \leq -2$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $5x + 3 \leq 13$ and $-2x + 9 < 3$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $5x + 3 \leq 13$ and $-2x + 9 < 3$

Step 1: Solve each inequality.

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $5x + 3 \leq 13$ and $-2x + 9 < 3$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \quad \text{and} \quad -2x + 9 < 3 \\ \underline{-3 \quad -3} \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $5x + 3 \leq 13$ and $-2x + 9 < 3$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \quad \text{and} \quad -2x + 9 < 3 \\ \underline{-3 \quad -3} \\ 5x \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $5x + 3 \leq 13$ and $-2x + 9 < 3$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \quad \text{and} \quad -2x + 9 < 3 \\ \underline{-3 \quad -3} \\ 5x \leq \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $5x + 3 \leq 13$ and $-2x + 9 < 3$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \quad \text{and} \quad -2x + 9 < 3 \\ \underline{-3 \quad -3} \\ 5x \leq 10 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ and } -2x + 9 < 3 \\ \underline{-3 \quad -3} \\ 5x \leq 10 \\ \underline{\quad \quad} \\ \frac{5x}{5} \leq \frac{10}{5} \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ and } -2x + 9 < 3 \\ \underline{-3 \quad -3} \\ 5x \leq 10 \\ \underline{5 \quad 5} \\ x \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ and } -2x + 9 < 3 \\ \underline{-3 \quad -3} \\ 5x \leq 10 \\ \underline{5 \quad 5} \\ x \leq \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ and } -2x + 9 < 3 \\ \underline{-3 \quad -3} \\ 5x \leq 10 \\ \underline{5 \quad 5} \\ x \leq 2 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example: $5x + 3 \leq 13$ and $-2x + 9 < 3$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \quad \text{and} \quad -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \qquad \underline{-9 \quad -9} \\ 5x \leq 10 \\ \underline{5 \quad 5} \\ x \leq 2 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

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Type 1: and

Example: $5x + 3 \leq 13$ and $-2x + 9 < 3$

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$$\begin{array}{r} 5x + 3 \leq 13 \quad \text{and} \quad -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \qquad \underline{-9 \quad -9} \\ 5x \leq 10 \qquad \qquad \qquad -2x \\ \underline{5 \quad 5} \\ x \leq 2 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ and } -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \\ 5x \leq 10 \qquad \qquad -2x < \\ \underline{5 \quad 5} \\ x \leq 2 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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Step 1: Solve each inequality.

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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Example: $5x + 3 \leq 13$ and $-2x + 9 < 3$

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \quad \text{and} \quad -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \\ 5x \leq 10 \qquad \qquad -2x < -6 \\ \underline{5 \quad 5} \qquad \qquad \underline{-2 \quad -2} \\ x \leq 2 \qquad \qquad x \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ and } -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \\ 5x \leq 10 \qquad \qquad -2x < -6 \\ \underline{5 \quad 5} \qquad \qquad \underline{-2 \quad -2} \\ x \leq 2 \qquad \qquad x > \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ and } -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \\ 5x \leq 10 \qquad \qquad -2x < -6 \\ \underline{5 \quad 5} \qquad \qquad \underline{-2 \quad -2} \\ x \leq 2 \qquad \qquad x > 3 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ and } -2x + 9 < 3 \\ -3 \quad -3 \qquad \qquad \quad -9 \quad -9 \\ \hline \end{array}$$

Step 2: Graph the **intersection** of the two solution sets.

$$\begin{array}{r} 5x \leq 10 \qquad \qquad \quad -2x < -6 \\ \underline{5} \quad \underline{5} \qquad \qquad \quad \underline{-2} \quad \underline{-2} \\ x \leq 2 \qquad \qquad \qquad x > 3 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

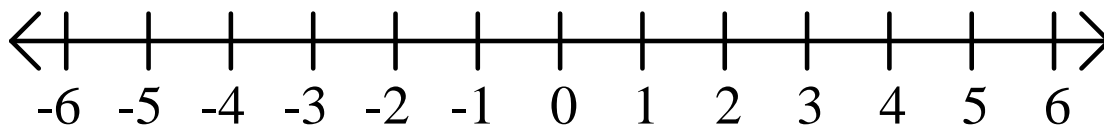
$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ and } -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} \underline{5x \leq 10} \qquad \underline{-2x < -6} \\ \underline{5 \quad 5} \qquad \underline{-2 \quad -2} \\ x \leq 2 \qquad \qquad x > 3 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and \emptyset

Example:

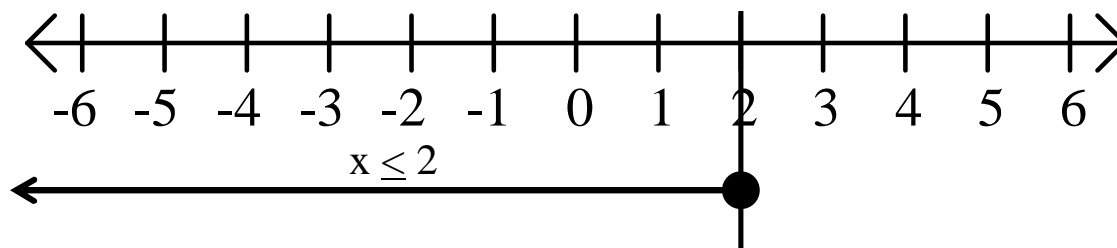
$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ and } -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} 5x \leq 10 \qquad \qquad -2x < -6 \\ \underline{5 \quad 5} \qquad \qquad \underline{-2 \quad -2} \\ x \leq 2 \qquad \qquad x > 3 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and \emptyset

Example:

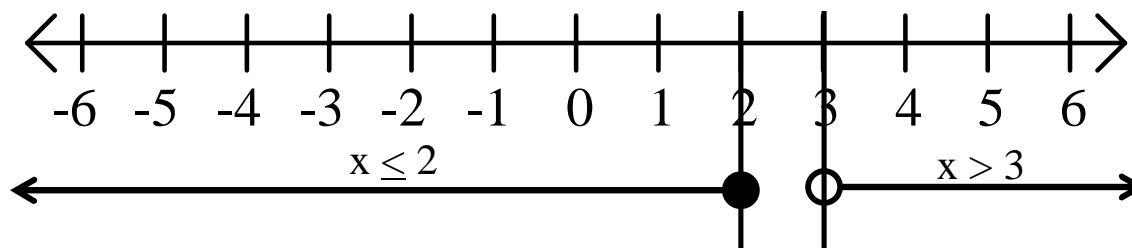
$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ and } -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} 5x \leq 10 \\ \underline{5 \quad 5} \\ x \leq 2 \end{array} \qquad \begin{array}{r} -2x < -6 \\ \underline{-2 \quad -2} \\ x > 3 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and and or

Example:

$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

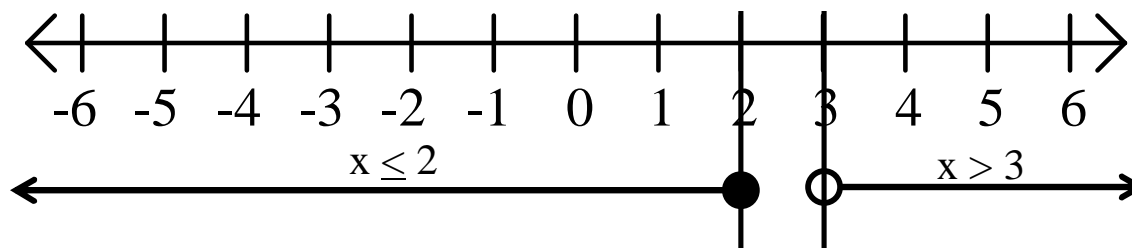
Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ and } -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} 5x \leq 10 \qquad \qquad -2x < -6 \\ \underline{5 \quad 5} \qquad \qquad \underline{-2 \quad -2} \end{array}$$

$$x \leq 2 \qquad \text{and} \qquad x > 3$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

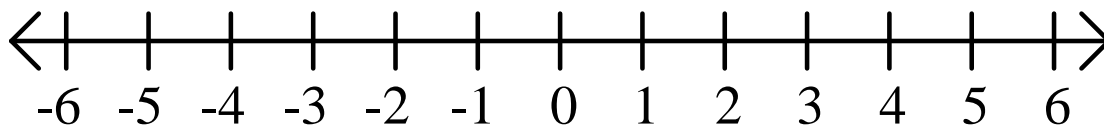
$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ and } -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} 5x \leq 10 \qquad \qquad -2x < -6 \\ \underline{5 \quad 5} \qquad \qquad \underline{-2 \quad -2} \\ x \leq 2 \qquad \text{and} \qquad x > 3 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: and

Example:

$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

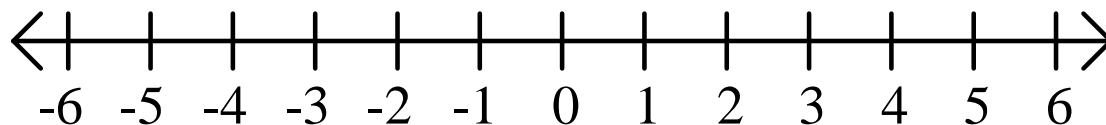
$$\begin{array}{r} 5x + 3 \leq 13 \text{ and } -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \end{array}$$

Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} 5x \leq 10 \qquad \qquad -2x < -6 \\ \underline{5 \quad 5} \qquad \qquad \underline{-2 \quad -2} \end{array}$$

Step 3: Express the final solution in terms of x in simplest form.

$$x \leq 2 \quad \text{and} \quad x > 3$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 1: \neq and \emptyset

Example:

$$5x + 3 \leq 13 \text{ and } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ and } -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \end{array}$$

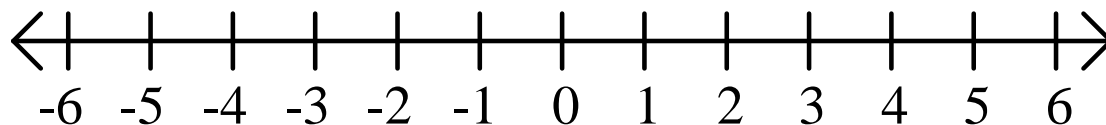
Step 2: Graph the intersection of the two solution sets.

$$\begin{array}{r} 5x \leq 10 \qquad \qquad -2x < -6 \\ \underline{5 \quad 5} \qquad \qquad \underline{-2 \quad -2} \end{array}$$

Step 3: Express the final solution in terms of x in simplest form.

$$x \leq 2 \quad \text{and} \quad x > 3$$

no solution



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: or

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or $<$

Example: $5x + 3 \leq 13$ or $-2x + 9 < 3$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \neq

Example: $5x + 3 \leq 13$ or $-2x + 9 < 3$

Step 1: Solve each inequality.

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example: $5x + 3 \leq 13$ or $-2x + 9 < 3$

Step 1: Solve each inequality.

$$5x + 3 \leq 13 \text{ or } -2x + 9 < 3$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example: $5x + 3 \leq 13$ or $-2x + 9 < 3$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \quad \text{or} \quad -2x + 9 < 3 \\ \underline{-3 \quad -3} \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example: $5x + 3 \leq 13$ or $-2x + 9 < 3$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \quad \text{or} \quad -2x + 9 < 3 \\ \underline{-3 \quad -3} \\ 5x \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example: $5x + 3 \leq 13$ or $-2x + 9 < 3$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \quad \text{or} \quad -2x + 9 < 3 \\ \underline{-3 \quad -3} \\ 5x \leq \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example: $5x + 3 \leq 13$ or $-2x + 9 < 3$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \quad \text{or} \quad -2x + 9 < 3 \\ \underline{-3 \quad -3} \\ 5x \leq 10 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example: $5x + 3 \leq 13$ or $-2x + 9 < 3$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \quad \text{or} \quad -2x + 9 < 3 \\ \underline{-3 \quad -3} \\ 5x \leq 10 \\ \underline{\quad \quad} \\ \frac{5x}{5} \leq \frac{10}{5} \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example: $5x + 3 \leq 13$ or $-2x + 9 < 3$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \quad \text{or} \quad -2x + 9 < 3 \\ \underline{-3 \quad -3} \\ 5x \leq 10 \\ \underline{\quad \quad} \\ x \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or $<$

Example: $5x + 3 \leq 13$ or $-2x + 9 < 3$

Step 1: Solve each inequality.

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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$$\begin{array}{r} 5x + 3 \leq 13 \text{ or } -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \end{array}$$

Step 2: Graph the union of the two solution sets.

$$\begin{array}{r} \underline{5x \leq 10} \qquad \qquad \underline{-2x < -6} \\ \underline{5 \quad 5} \qquad \qquad \underline{-2 \quad -2} \\ x \leq 2 \qquad \qquad x > 3 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

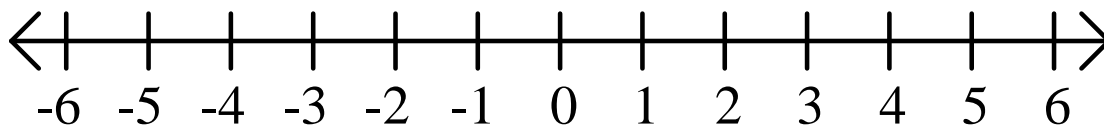
$$5x + 3 \leq 13 \text{ or } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ or } -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \end{array}$$

Step 2: Graph the union of the two solution sets.

$$\begin{array}{r} \frac{5x}{5} \leq \frac{10}{5} \qquad \qquad \frac{-2x}{-2} < \frac{-6}{-2} \\ x \leq 2 \qquad \qquad \qquad x > 3 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

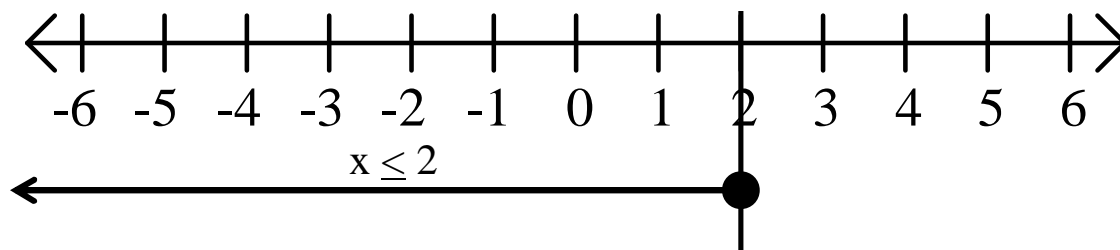
$$5x + 3 \leq 13 \text{ or } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ or } -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \end{array}$$

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$$\begin{array}{r} 5x \leq 10 \qquad \qquad -2x < -6 \\ \underline{5 \quad 5} \qquad \qquad \underline{-2 \quad -2} \\ x \leq 2 \qquad \qquad x > 3 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

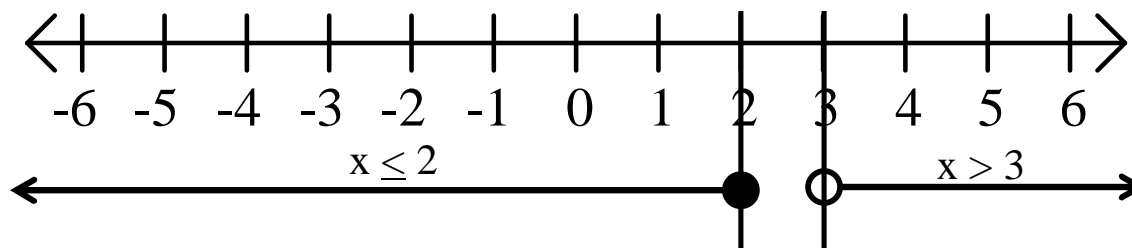
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Step 2: Graph the union of the two solution sets.

$$\begin{array}{r} 5x \leq 10 \\ \underline{5 \quad 5} \\ x \leq 2 \end{array} \qquad \begin{array}{r} -2x < -6 \\ \underline{-2 \quad -2} \\ x > 3 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

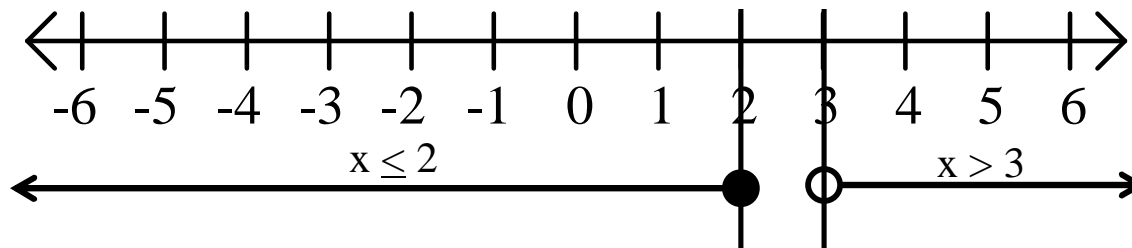
Example: $5x + 3 \leq 13$ or $-2x + 9 < 3$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \quad \text{or} \quad -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \end{array}$$

Step 2: Graph the union of the two solution sets.

$$\begin{array}{r} 5x \leq 10 \qquad \qquad -2x < -6 \\ \underline{5 \quad 5} \qquad \qquad \underline{-2 \quad -2} \\ x \leq 2 \qquad \qquad \text{or} \qquad x > 3 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

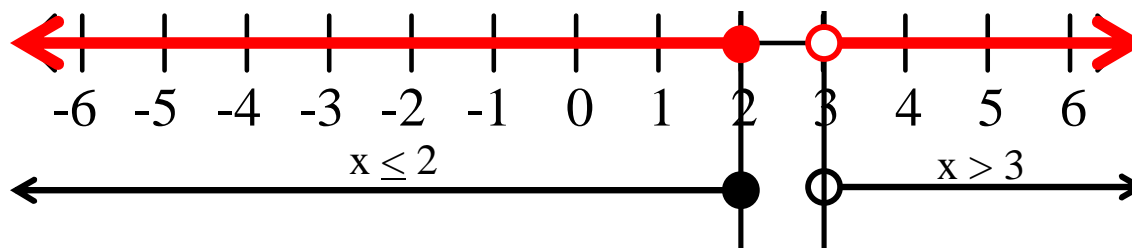
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$$\begin{array}{r} 5x \leq 10 \\ \underline{5} \quad \underline{5} \\ x \leq 2 \end{array} \quad \text{or} \quad \begin{array}{r} -2x < -6 \\ \underline{-2} \quad \underline{-2} \\ x > 3 \end{array}$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

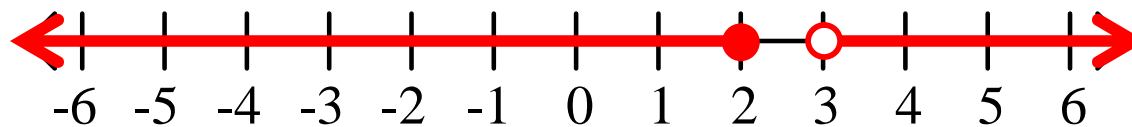
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Algebra I Class Worksheet #4 Unit 4

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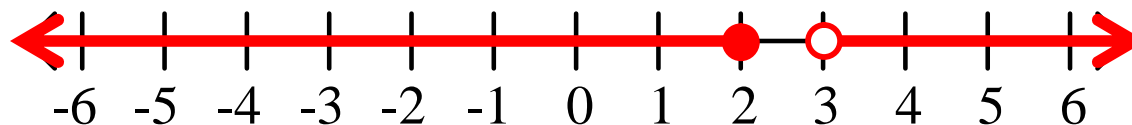
$$\begin{array}{r} 5x + 3 \leq 13 \text{ or } -2x + 9 < 3 \\ -3 \quad -3 \qquad \qquad \quad -9 \quad -9 \\ \hline \end{array}$$

Step 2: Graph the union of the two solution sets.

$$\begin{array}{r} 5x \leq 10 \qquad \qquad \quad -2x < -6 \\ \underline{5} \quad \underline{5} \qquad \qquad \quad \underline{-2} \quad \underline{-2} \\ \hline \end{array}$$

Step 3: Express the final solution in terms of x in simplest form.

$$x \leq 2 \qquad \text{or} \qquad x > 3$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

$$5x + 3 \leq 13 \text{ or } -2x + 9 < 3$$

Step 1: Solve each inequality.

$$\begin{array}{r} 5x + 3 \leq 13 \text{ or } -2x + 9 < 3 \\ \underline{-3 \quad -3} \qquad \qquad \underline{-9 \quad -9} \end{array}$$

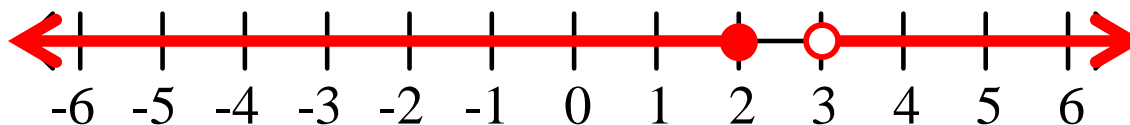
Step 2: Graph the union of the two solution sets.

$$\begin{array}{r} 5x \leq 10 \qquad \qquad -2x < -6 \\ \underline{5 \quad 5} \qquad \qquad \underline{-2 \quad -2} \end{array}$$

Step 3: Express the final solution in terms of x in simplest form.

$$x \leq 2 \qquad \text{or} \qquad x > 3$$

$$x \leq 2 \text{ or } x > 3$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \neq

Example: $-4x + 6 \geq 14$ or $3x + 10 < 22$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

$$-4x + 6 \geq 14 \text{ or } 3x + 10 < 22$$

Step 1: Solve each inequality.

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example: $-4x + 6 \geq 14$ or $3x + 10 < 22$

Step 1: Solve each inequality.

$$-4x + 6 \geq 14 \text{ or } 3x + 10 < 22$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \neq

Example: $-4x + 6 \geq 14$ or $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{or} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example: $-4x + 6 \geq 14$ or $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{or} \quad 3x + 10 < 22 \\ \quad \underline{-6 \quad -6} \\ \quad -4x \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \neq

Example: $-4x + 6 \geq 14$ or $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{or} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \\ -4x \geq \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

$$-4x + 6 \geq 14 \text{ or } 3x + 10 < 22$$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \text{ or } 3x + 10 < 22 \\ \underline{-6 \quad -6} \\ -4x \geq 8 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example: $-4x + 6 \geq 14$ or $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{or} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \\ -4x \geq 8 \\ \underline{-4 \quad -4} \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example: $-4x + 6 \geq 14$ or $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{or} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \\ -4x \geq 8 \\ \underline{-4 \quad -4} \\ x \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example: $-4x + 6 \geq 14$ or $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{or} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \\ -4x \geq 8 \\ \underline{-4 \quad -4} \\ x \leq \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example: $-4x + 6 \geq 14$ or $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{or} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \\ -4x \geq 8 \\ \underline{-4 \quad -4} \\ x \leq -2 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or $<$

Example: $-4x + 6 \geq 14$ or $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{or} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \underline{-10 \quad -10} \\ -4x \geq 8 \\ \underline{-4 \quad -4} \\ x \leq -2 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or $<$

Example: $-4x + 6 \geq 14$ or $3x + 10 < 22$

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or $<$

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or $<$

Example: $-4x + 6 \geq 14$ or $3x + 10 < 22$

Step 1: Solve each inequality.

$$\begin{array}{r} -4x + 6 \geq 14 \quad \text{or} \quad 3x + 10 < 22 \\ \underline{-6 \quad -6} \qquad \qquad \underline{-10 \quad -10} \\ -4x \geq 8 \qquad \qquad \frac{3x}{3} < \frac{12}{3} \\ \underline{-4 \quad -4} \\ x \leq -2 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or $<$

Example:

$$-4x + 6 \geq 14 \text{ or } 3x + 10 < 22$$

Step 1: Solve each inequality.

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Step 2: Graph the union of the two solution sets.

$$\begin{array}{r} \underline{-4x \geq 8} \qquad \qquad \underline{3x < 12} \\ \underline{-4 \quad -4} \qquad \qquad \underline{3 \quad 3} \\ x \leq -2 \qquad \qquad x < 4 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

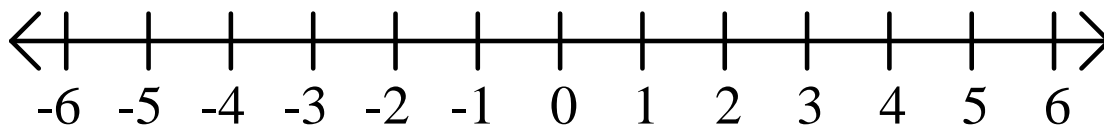
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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

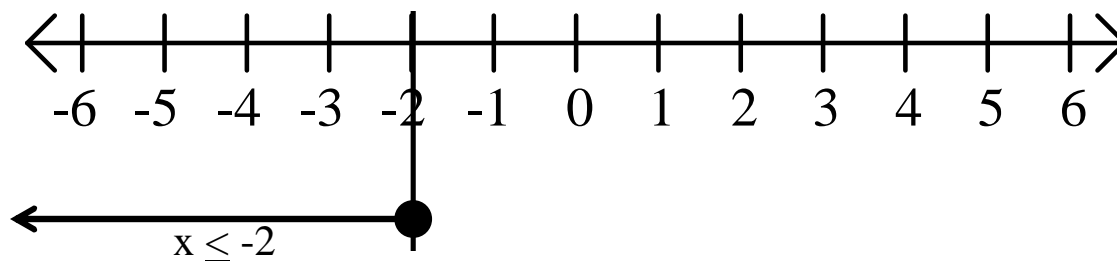
$$-4x + 6 \geq 14 \text{ or } 3x + 10 < 22$$

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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

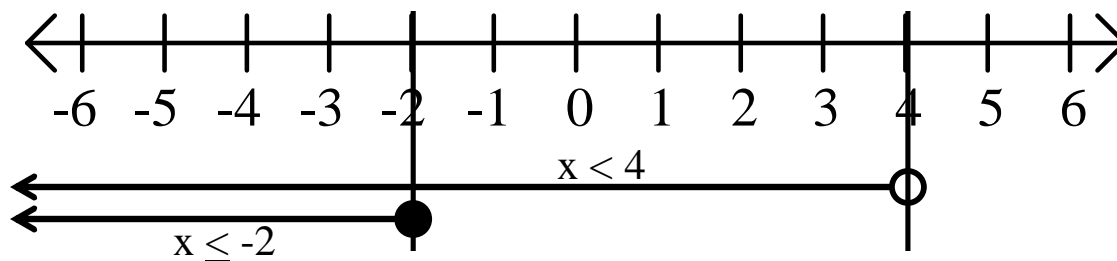
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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

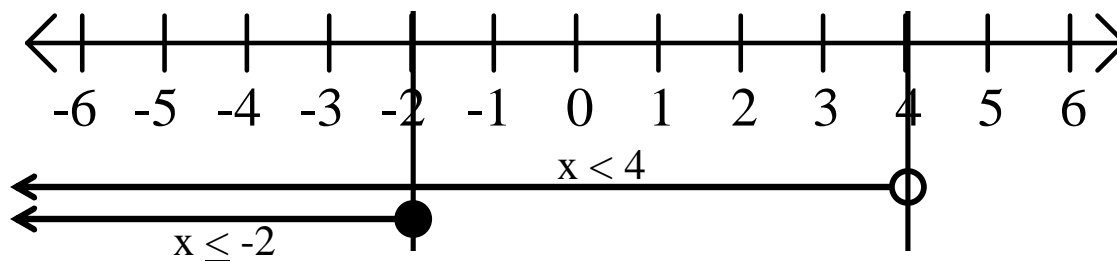
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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

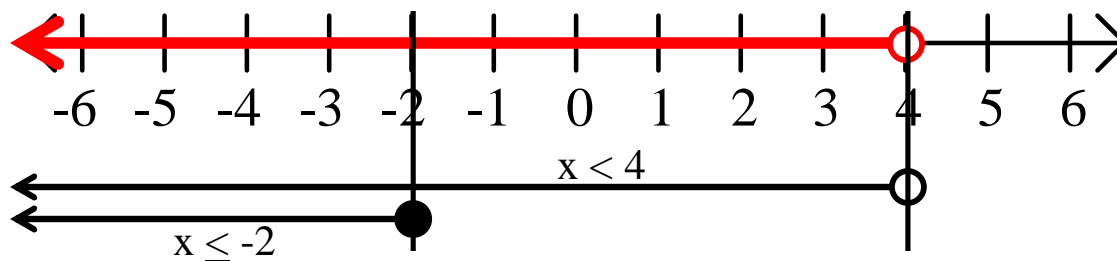
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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

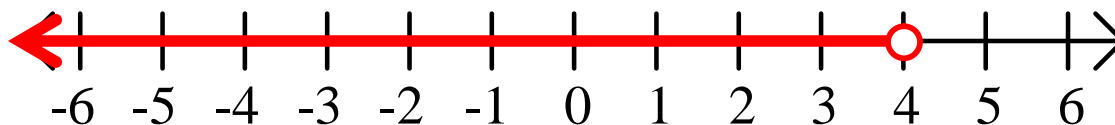
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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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$$-4x + 6 \geq 14 \text{ or } 3x + 10 < 22$$

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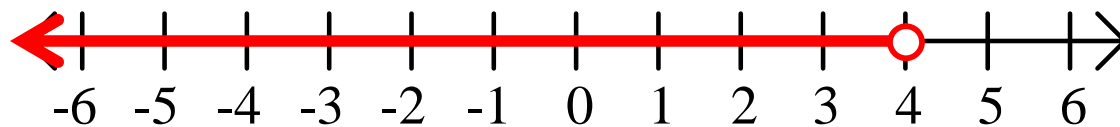
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Step 2: Graph the union of the two solution sets.

$$\begin{array}{r} -4x \geq 8 \qquad \qquad 3x < 12 \\ \underline{-4 \quad -4} \qquad \qquad \underline{3 \quad 3} \end{array}$$

Step 3: Express the final solution in terms of x in simplest form.

$$x \leq -2 \qquad \text{or} \qquad x < 4$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

$$-4x + 6 \geq 14 \text{ or } 3x + 10 < 22$$

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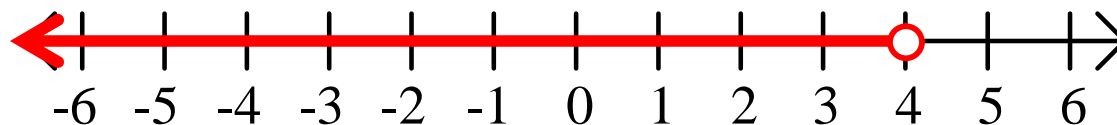
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Step 3: Express the final solution in terms of x in simplest form.

$$x \leq -2 \qquad \text{or} \qquad x < 4$$

$$x < 4$$



Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \neq

Example: $2x - 1 > -5$ or $5x + 3 > 18$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \neq

Example: $2x - 1 > -5$ or $5x + 3 > 18$

Step 1: Solve each inequality.

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \neq

Example: $2x - 1 > -5$ or $5x + 3 > 18$

Step 1: Solve each inequality.

$$2x - 1 > -5 \text{ or } 5x + 3 > 18$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example: $2x - 1 > -5$ or $5x + 3 > 18$

Step 1: Solve each inequality.

$$\begin{array}{r} 2x - 1 > -5 \quad \text{or} \quad 5x + 3 > 18 \\ +1 \quad +1 \\ \hline \end{array}$$

Algebra I Class Worksheet #4 Unit 4

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Example: $2x - 1 > -5$ or $5x + 3 > 18$

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$$\begin{array}{r} 2x - 1 > -5 \quad \text{or} \quad 5x + 3 > 18 \\ +1 \quad +1 \\ \hline 2x \end{array}$$

Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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$$\begin{array}{r} 2x - 1 > -5 \quad \text{or} \quad 5x + 3 > 18 \\ +1 \quad +1 \\ \hline \frac{2x}{2} > \frac{-4}{2} \end{array}$$

Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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Algebra I Class Worksheet #4 Unit 4

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Step 2: Graph the union of the two solution sets.

$$\begin{array}{r} \frac{2x}{2} > \frac{-4}{2} \qquad \qquad \qquad \frac{5x}{5} > \frac{15}{5} \\ \hline x > -2 \qquad \qquad \qquad x > 3 \end{array}$$

Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

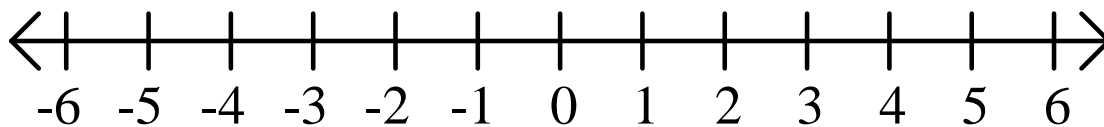
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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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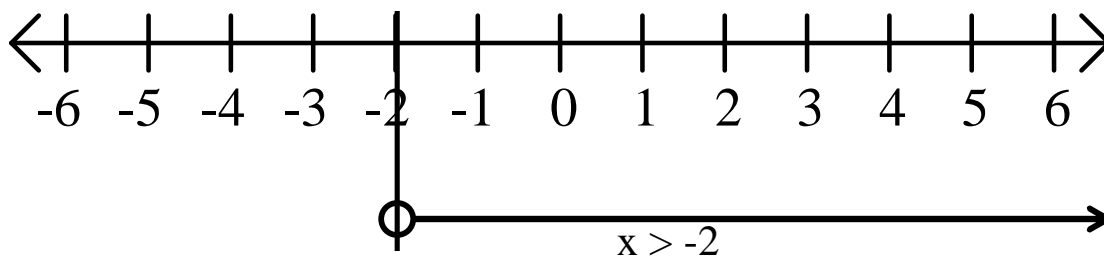
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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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Example:

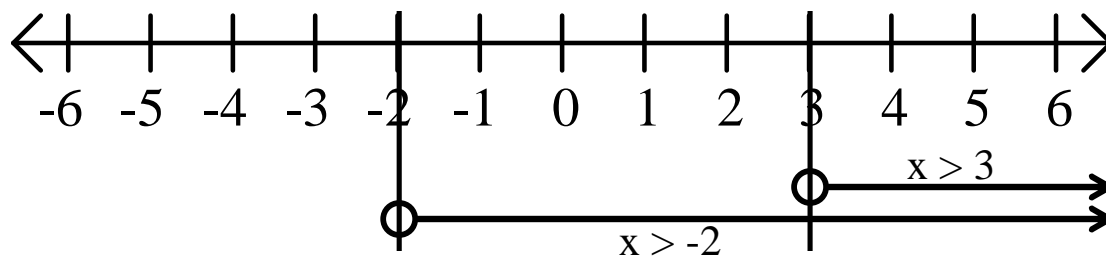
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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

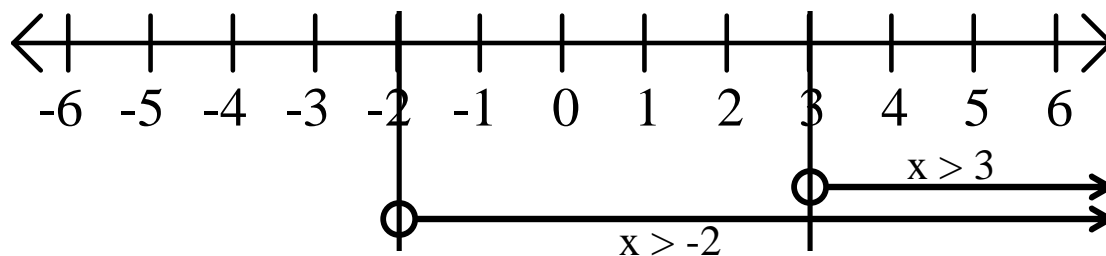
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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or $>$

Example:

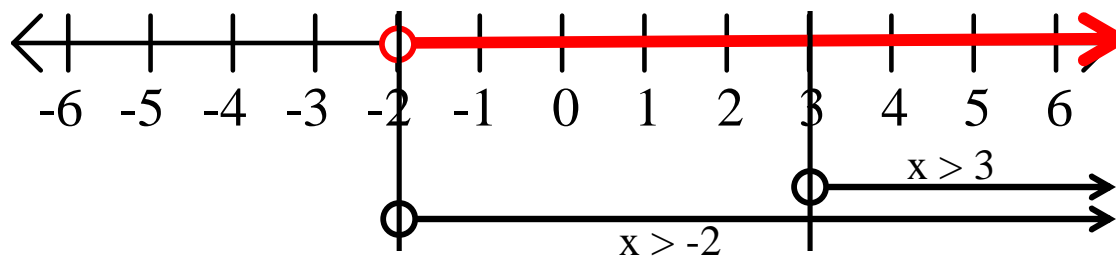
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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

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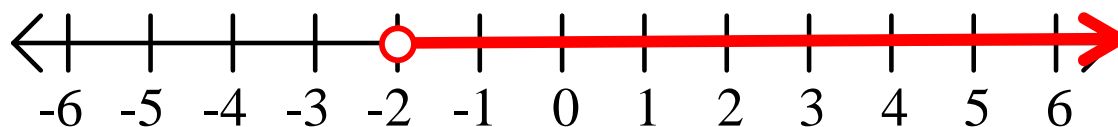
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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example:

$$2x - 1 > -5 \text{ or } 5x + 3 > 18$$

Step 1: Solve each inequality.

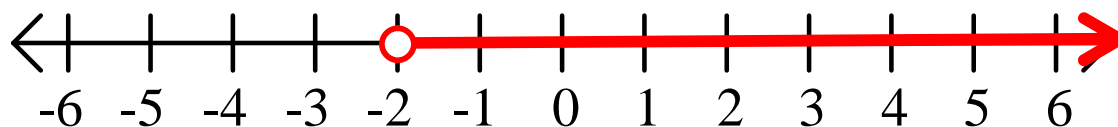
$$\begin{array}{r} 2x - 1 > -5 \text{ or } 5x + 3 > 18 \\ +1 \quad +1 \qquad \qquad \quad -3 \quad -3 \\ \hline \end{array}$$

Step 2: Graph the union of the two solution sets.

$$\begin{array}{r} 2x > -4 \qquad \qquad \quad 5x > 15 \\ \frac{2x}{2} > \frac{-4}{2} \qquad \qquad \quad \frac{5x}{5} > \frac{15}{5} \\ \hline \end{array}$$

Step 3: Express the final solution in terms of x in simplest form.

$$x > -2 \qquad \text{or} \qquad x > 3$$



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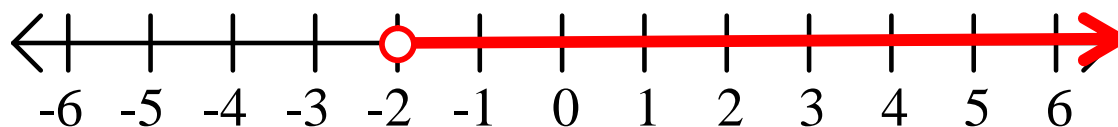
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Algebra I Class Worksheet #4 Unit 4

Solving Compound Inequalities

Type 2: \neq or \emptyset

Example: $x + 1 < 5$ or $3x > -9$

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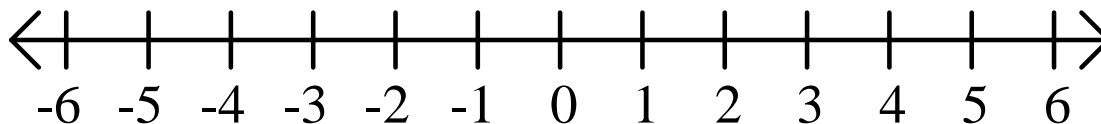
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Algebra I Class Worksheet #4 Unit 4

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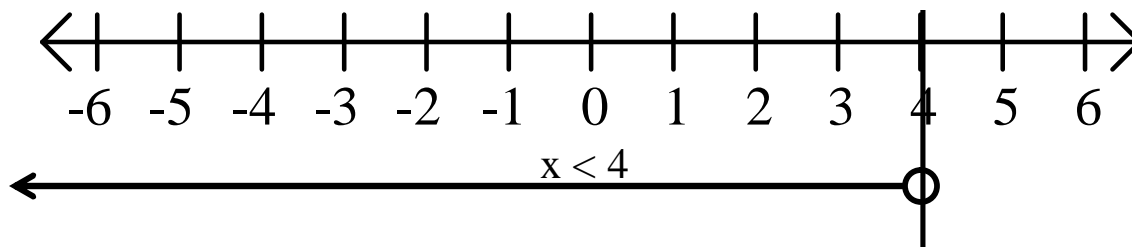
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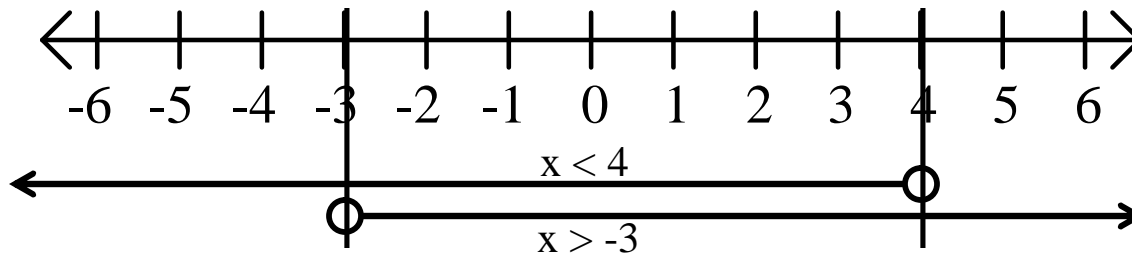
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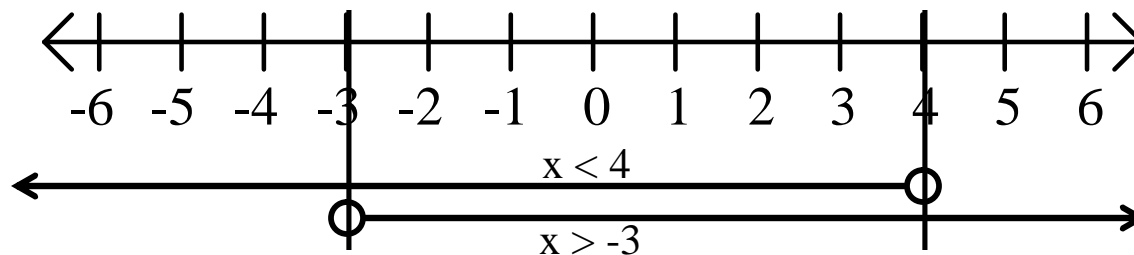
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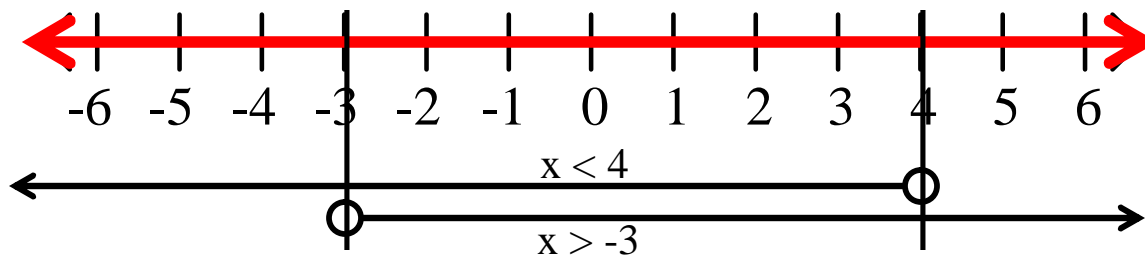
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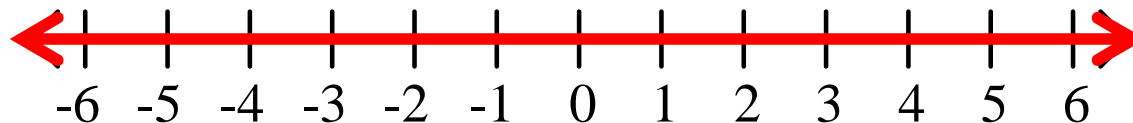
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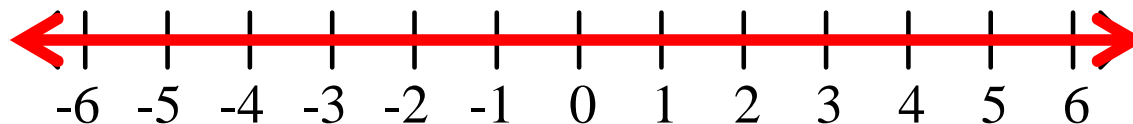
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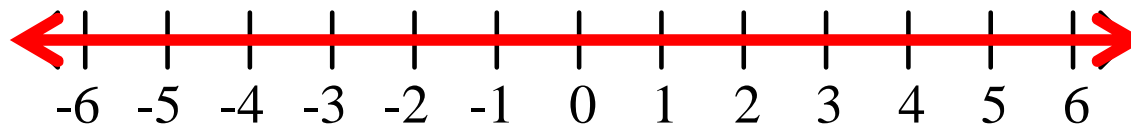
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Good luck on your homework !!

