Algebra II Lesson #2 Unit 1

Class Worksheet #2

For Worksheets #3 & #5

Algebra II Unit 1 Intervals and Interval Notation Any convex set of real numbers is called an interval.

Algebra II Unit 1 Intervals and Interval Notation Any convex set of real numbers is called an interval.

So, what is a **convex set**?

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Consider geometric shapes called polygons.

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Consider geometric shapes called polygons. They can be convex or non-convex. Here some examples of each.

Convex polygons

Non-convex polygons

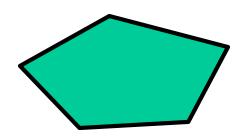
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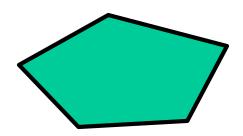


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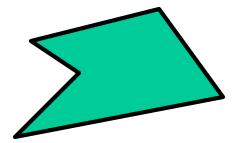
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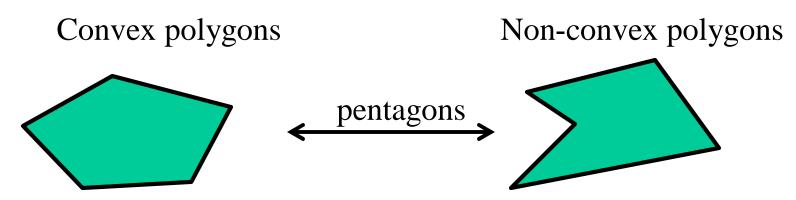


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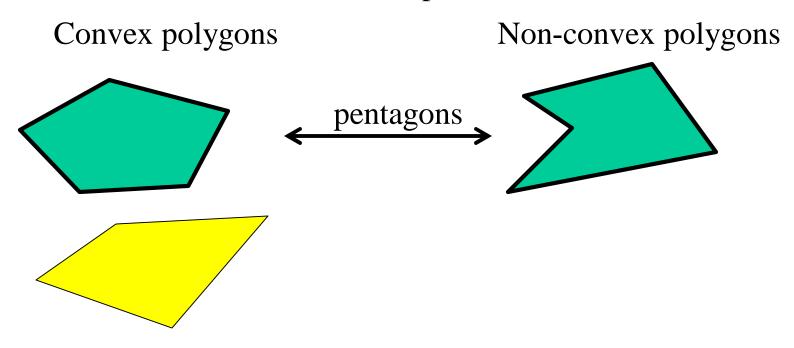
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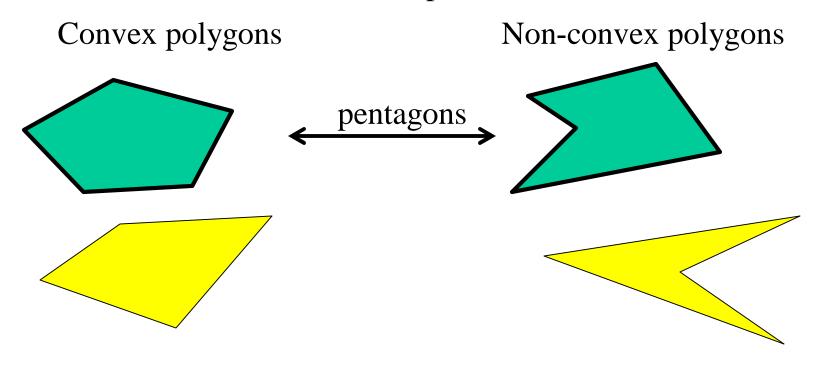
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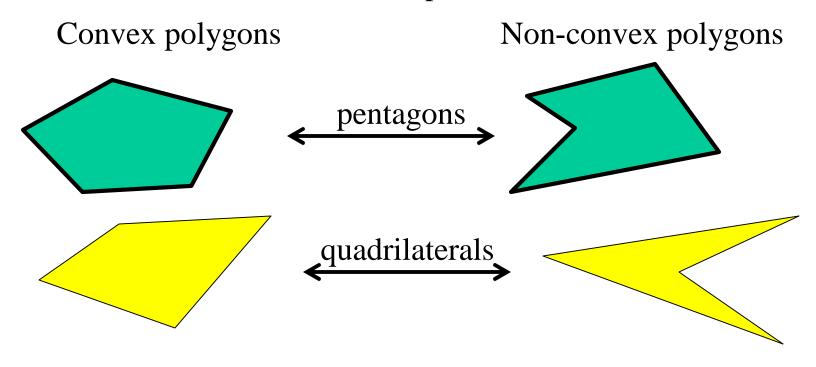
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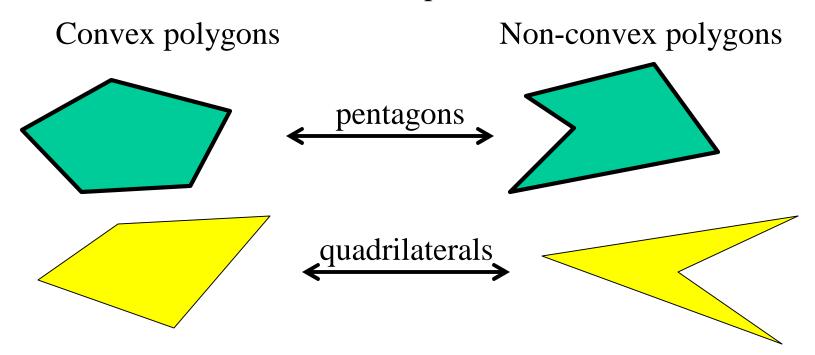
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A polygon is a **convex polygon** if and only if its **interior** is a **convex set** of points.

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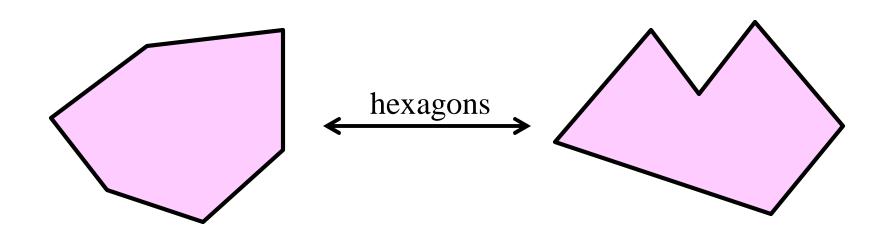
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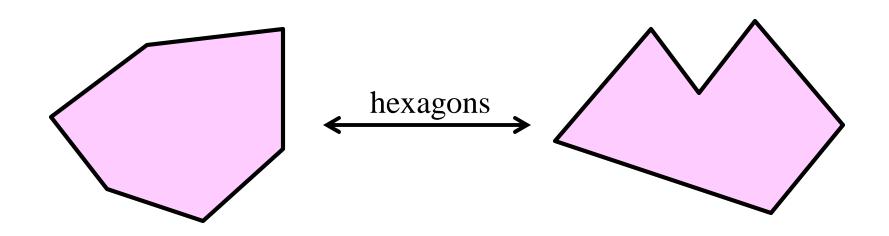
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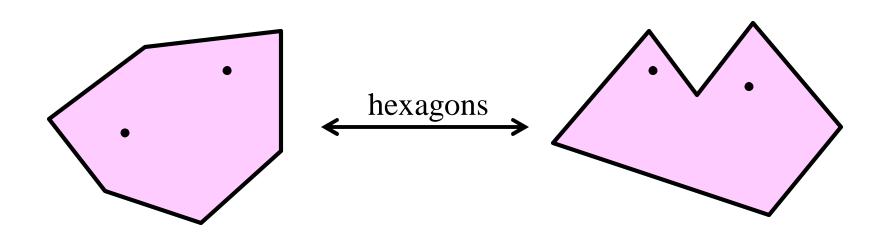
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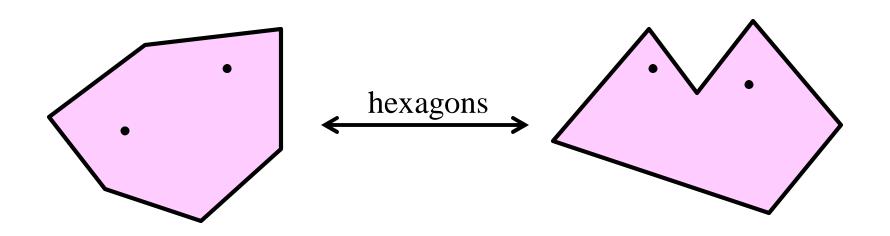
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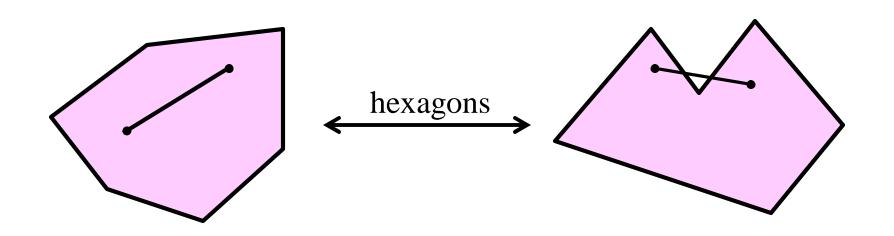
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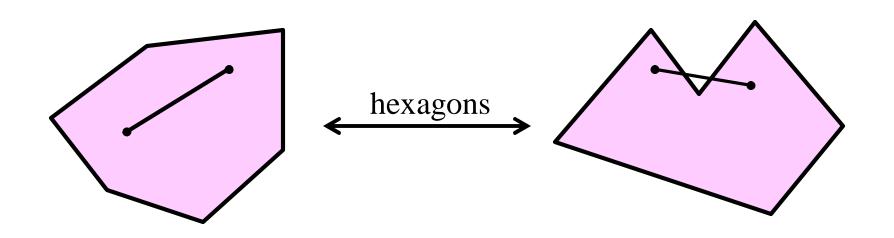
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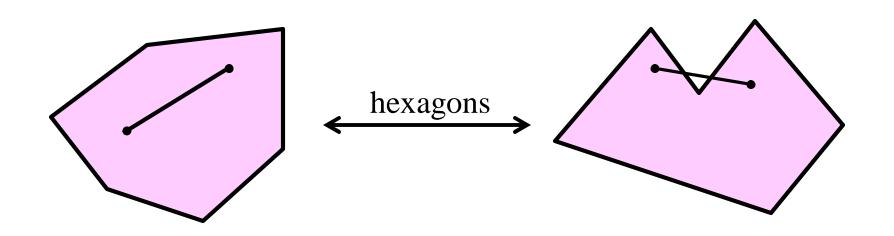
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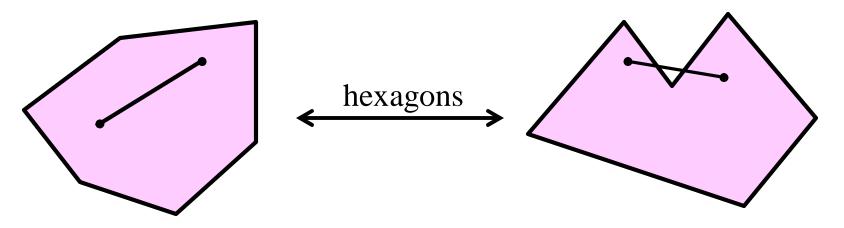
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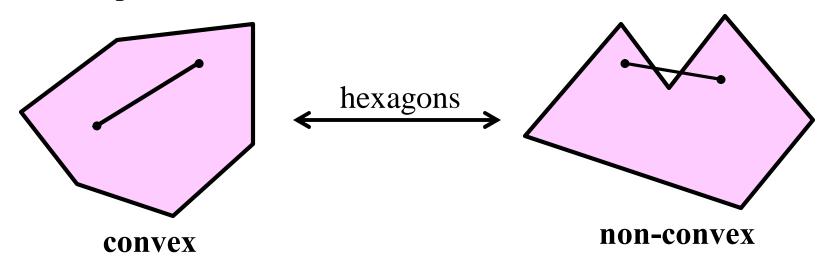
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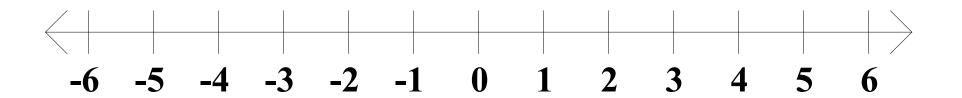
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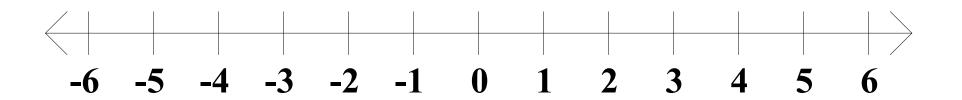
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Basic inequalities define convex sets of real numbers, intervals.

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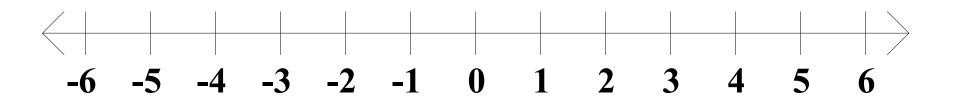
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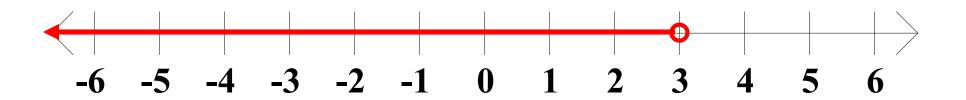


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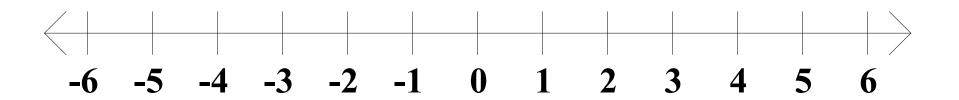
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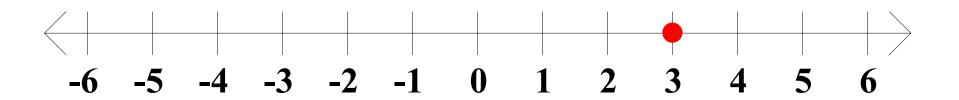


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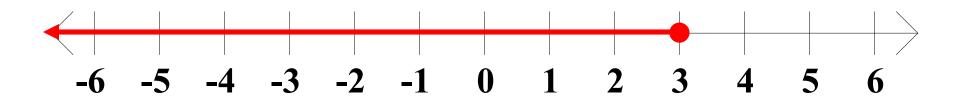


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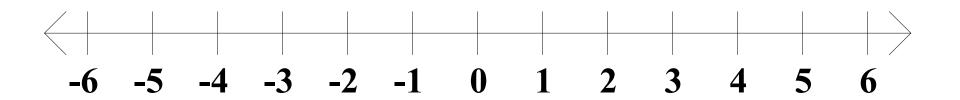
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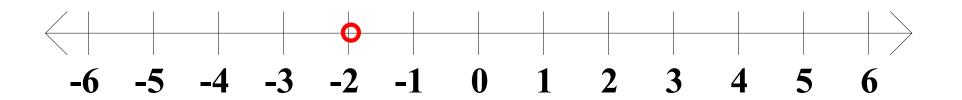
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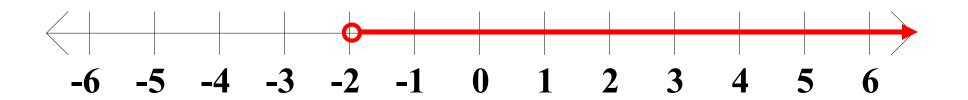
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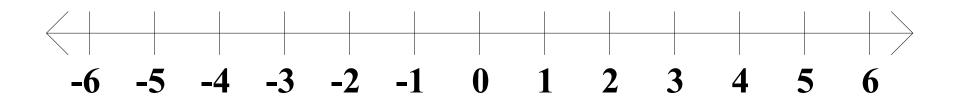
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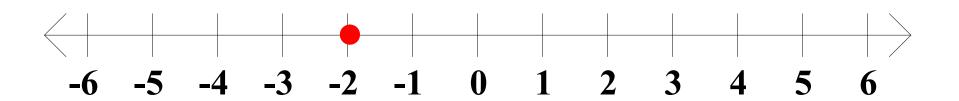
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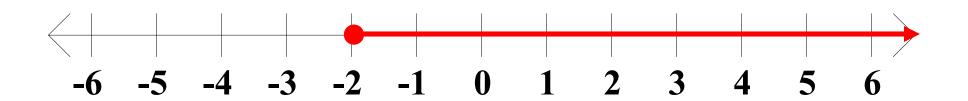
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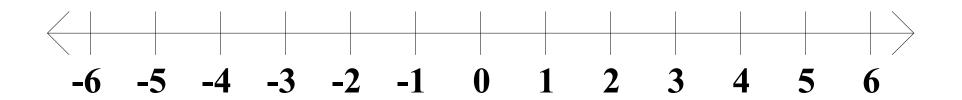
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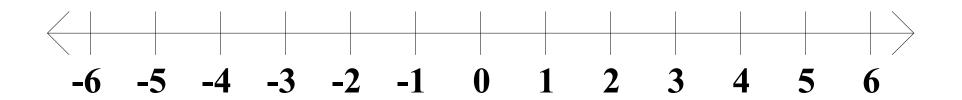
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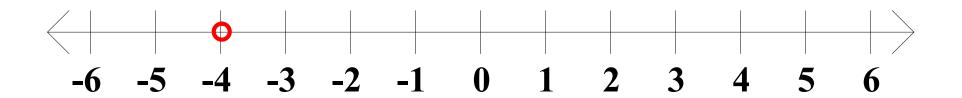


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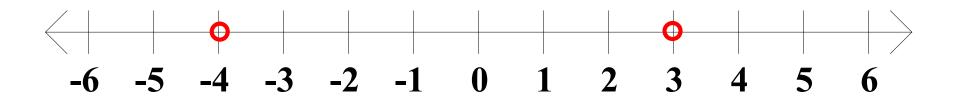


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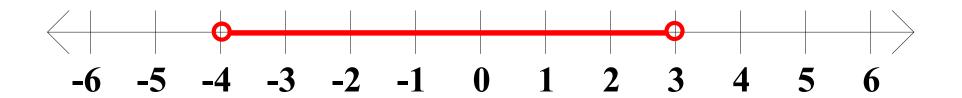


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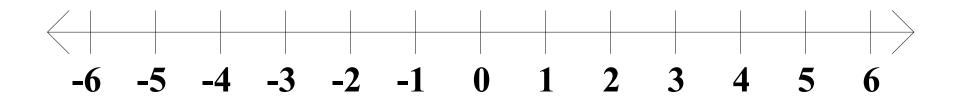


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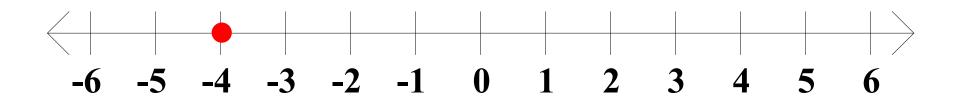
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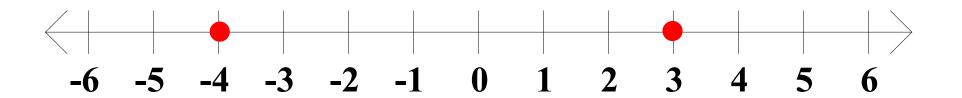
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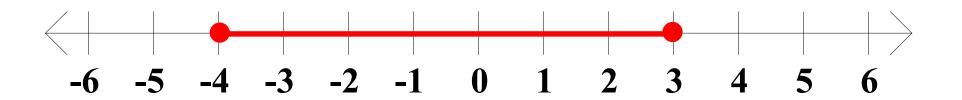
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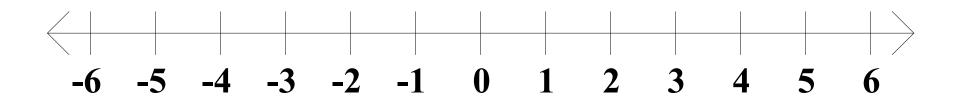
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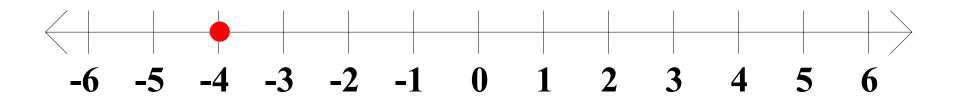
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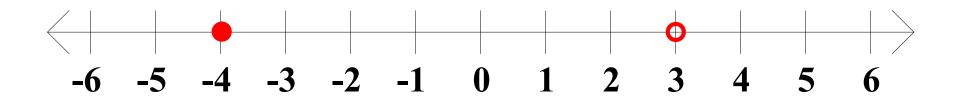
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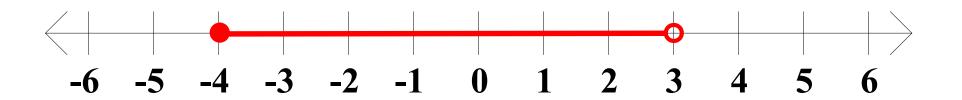
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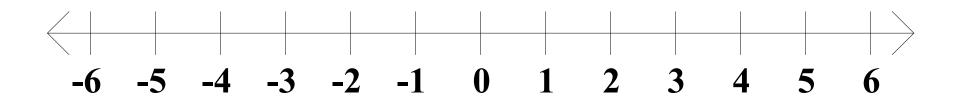
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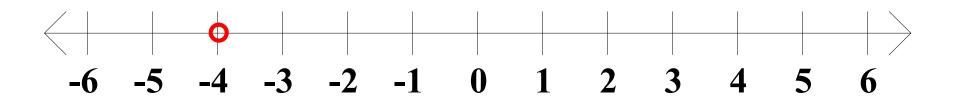
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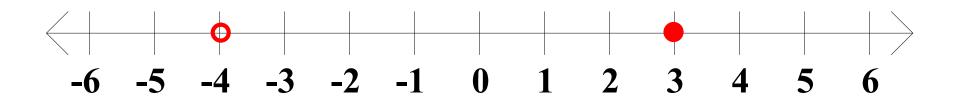
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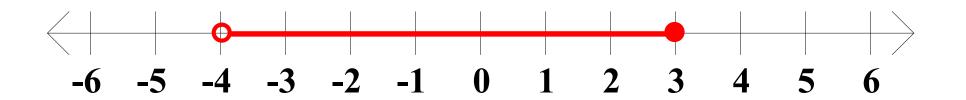
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Algebra II Unit 1 Intervals and Interval Notation Interval Notation:

Interval Notation: Intervals can be defined using special notation.

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 S =



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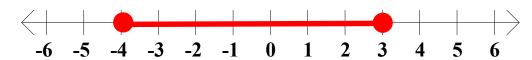


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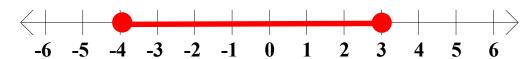
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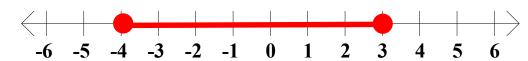
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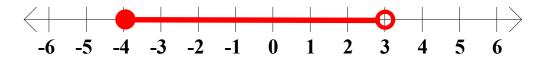
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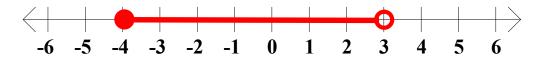


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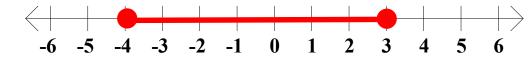


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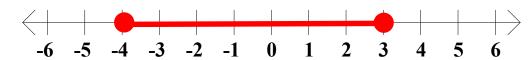


3.
$$-4 \le x < 3$$
 S = [

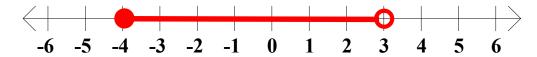


1.
$$-4 < x < 3$$
 $S = (-4, 3)$

2.
$$-4 \le x \le 3$$
 $S = [-4, 3]$

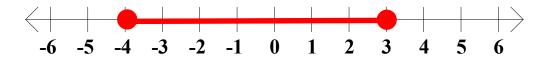


3.
$$-4 \le x < 3$$
 $S = [-4,$

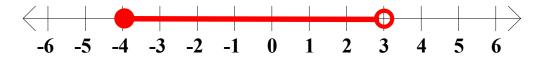


1.
$$-4 < x < 3$$
 $S = (-4, 3)$

2.
$$-4 \le x \le 3$$
 $S = [-4, 3]$

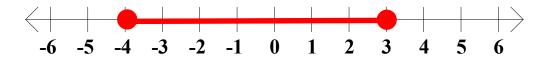


3.
$$-4 \le x < 3$$
 $S = [-4, 3]$



1.
$$-4 < x < 3$$
 $S = (-4, 3)$

2.
$$-4 \le x \le 3$$
 $S = [-4, 3]$

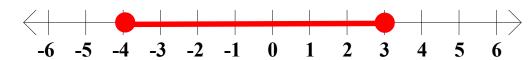


3.
$$-4 \le x < 3$$
 $S = [-4, 3)$



1.
$$-4 < x < 3$$
 $S = (-4, 3)$

2.
$$-4 \le x \le 3$$
 $S = [-4, 3]$



3.
$$-4 \le x < 3$$
 $S = [-4, 3)$

4.
$$-4 < x \le 3$$

1.
$$-4 < x < 3$$
 $S = (-4, 3)$

2.
$$-4 \le x \le 3$$
 $S = [-4, 3]$



3.
$$-4 \le x < 3$$
 $S = [-4, 3)$



4.
$$-4 < x \le 3$$



1.
$$-4 < x < 3$$
 $S = (-4, 3)$

2.
$$-4 \le x \le 3$$
 $S = [-4, 3]$



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$$-4 \le x < 3$$
 $S = [-4, 3)$

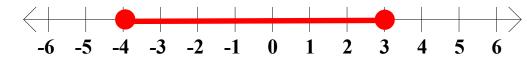


4.
$$-4 < x \le 3$$
 S =



1.
$$-4 < x < 3$$
 $S = (-4, 3)$

2.
$$-4 \le x \le 3$$
 $S = [-4, 3]$



3.
$$-4 \le x < 3$$
 $S = [-4, 3)$

4.
$$-4 < x \le 3$$
 S = (

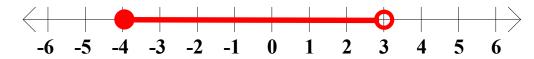


1.
$$-4 < x < 3$$
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 $S = (-4,$



1.
$$-4 < x < 3$$
 $S = (-4, 3)$

2.
$$-4 \le x \le 3$$
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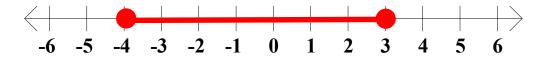
3.
$$-4 \le x < 3$$
 $S = [-4, 3)$

4.
$$-4 < x \le 3$$
 S = (-4, 3)

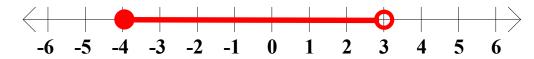


1.
$$-4 < x < 3$$
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$$-4 \le x \le 3$$
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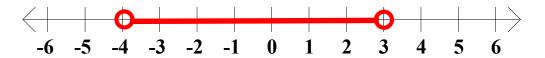
4.
$$-4 < x \le 3$$
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Interval Notation: Intervals can be defined using special notation. Consider the following examples.

1.
$$-4 < x < 3$$
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$$S = (-4, 3)$$



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$$-4 \le x \le 3$$
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3.
$$-4 \le x < 3$$
 $S = [-4, 3)$

$$S = [-4, 3)$$



4.
$$-4 < x \le 3$$
 $S = (-4, 3]$

$$S = (-4, 3)$$

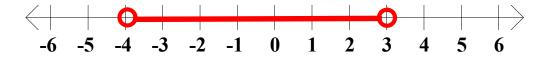


These are examples of bounded intervals.

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1.
$$-4 < x < 3$$
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$$S = (-4, 3)$$



2.
$$-4 \le x \le 3$$
 $S = [-4, 3]$

$$S = [-4, 3]$$



3.
$$-4 \le x < 3$$
 $S = [-4, 3)$

$$S = [-4, 3)$$



4.
$$-4 < x \le 3$$
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$$S = (-4, 3]$$



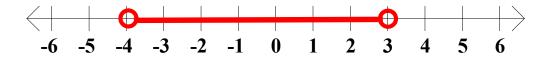
These are examples of bounded intervals.

Bounded intervals have two endpoints.

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1.
$$-4 < x < 3$$
 $S = (-4, 3)$

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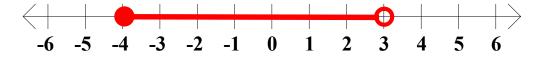
2.
$$-4 \le x \le 3$$
 $S = [-4, 3]$

$$S = [-4, 3]$$



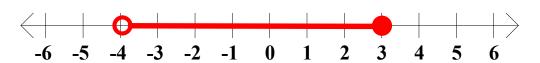
3.
$$-4 \le x < 3$$
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Bounded intervals have two endpoints.

Interval Notation: Intervals can be defined using special notation. Consider the following examples.

5.
$$x < 3$$

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Consider the following examples.

5.
$$x < 3$$



Interval Notation: Intervals can be defined using special notation.

Consider the following examples.

5.
$$x < 3$$

$$S =$$

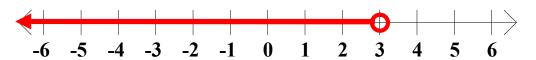


Interval Notation: Intervals can be defined using special notation.

Consider the following examples.

5.
$$x < 3$$

$$S = ($$



Interval Notation: Intervals can be defined using special notation.

Consider the following examples.

5.
$$x < 3$$

$$S = (-\infty,$$

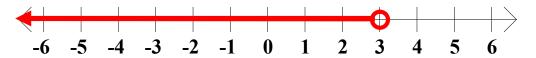


Interval Notation: Intervals can be defined using special notation.

Consider the following examples.

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$$x < 3$$

$$S = (-\infty, 3)$$



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Consider the following examples.

5.
$$x < 3$$

$$S = (-\infty, 3)$$



6. $x \le 3$

Interval Notation: Intervals can be defined using special notation.

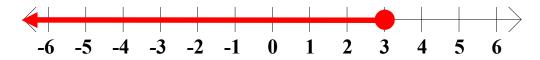
Consider the following examples.

5.
$$x < 3$$

$$S = (-\infty, 3)$$



6.
$$x \le 3$$



Interval Notation: Intervals can be defined using special notation.

Consider the following examples.

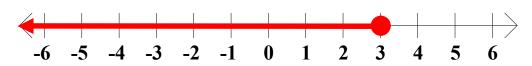
5. x < 3

$$S = (-\infty, 3)$$



6.
$$x \le 3$$

$$S =$$

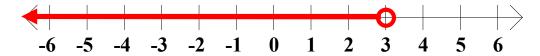


Interval Notation: Intervals can be defined using special notation.

Consider the following examples.

5. x < 3

$$S = (-\infty, 3)$$



6.
$$x \le 3$$

$$S = ($$



Interval Notation: Intervals can be defined using special notation.

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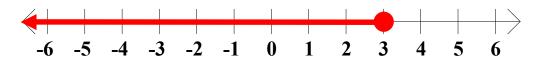
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$$S = (-\infty, 3)$$



6.
$$x \le 3$$

$$S = (-\infty,$$

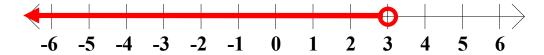


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Consider the following examples.

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$$x \le 3$$

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$$S = (-\infty, 3]$$

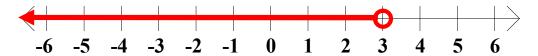


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Consider the following examples.

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$$x < 3$$

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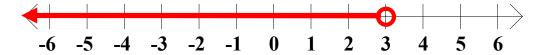
7.
$$x > -4$$

Interval Notation: Intervals can be defined using special notation.

Consider the following examples.

5.
$$x < 3$$

$$S = (-\infty, 3)$$



6.
$$x \le 3$$

$$S = (-\infty, 3]$$



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$$x > -4$$

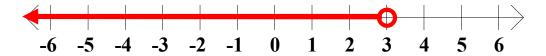


Interval Notation: Intervals can be defined using special notation.

Consider the following examples.

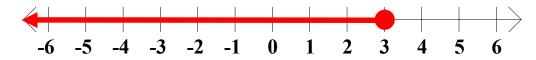
5. x < 3

$$S = (-\infty, 3)$$



6.
$$x \le 3$$

$$S = (-\infty, 3]$$



7.
$$x > -4$$

$$S =$$

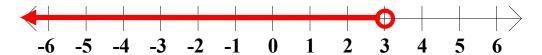


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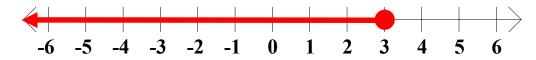
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$$x \le 3$$

$$S = (-\infty, 3]$$



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$$x > -4$$

$$S = ($$

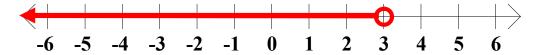


Interval Notation: Intervals can be defined using special notation.

Consider the following examples.

5. x < 3

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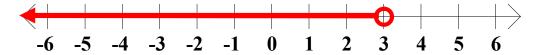


Interval Notation: Intervals can be defined using special notation.

Consider the following examples.

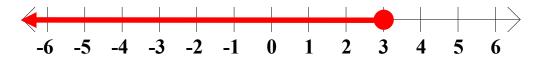
5. x < 3

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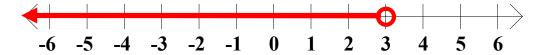


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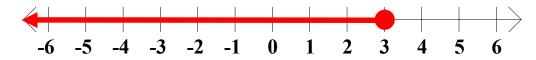
5. x < 3

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$$x > -4$$

$$S=(-4,\infty)$$

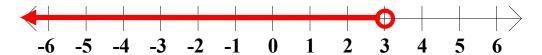


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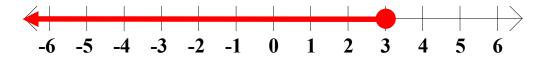
5.
$$x < 3$$

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$$x > -4$$

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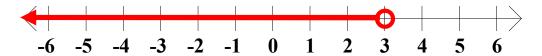
8.
$$x \ge -4$$

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Consider the following examples.

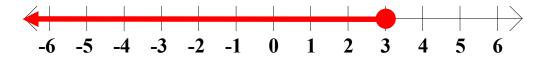
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$$S = (-\infty, 3)$$



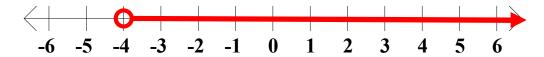
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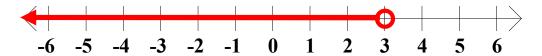


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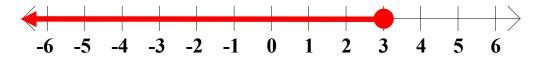
5. x < 3

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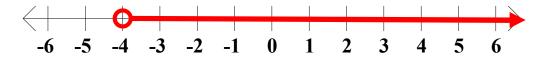
6.
$$x \le 3$$

$$S = (-\infty, 3]$$



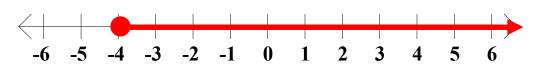
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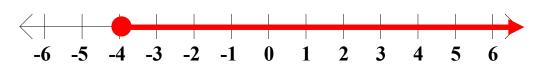
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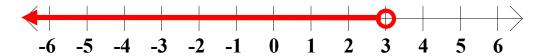


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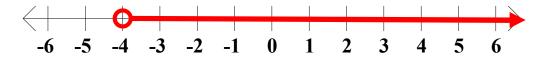
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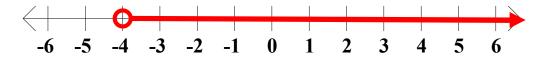
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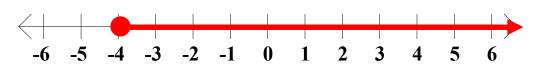
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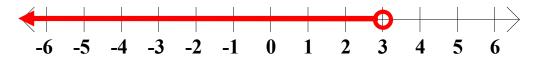


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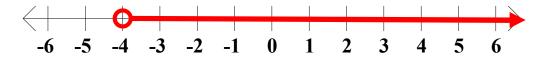
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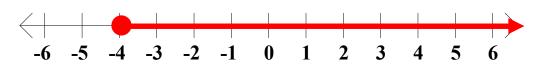
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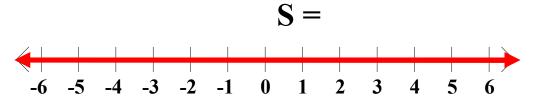
Interval Notation: Intervals can be defined using special notation. There are three other intervals to consider.

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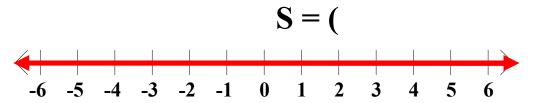
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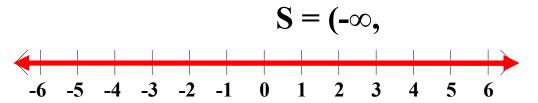
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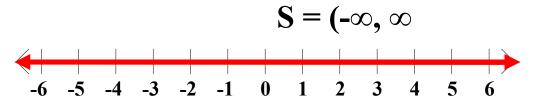
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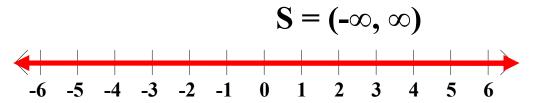
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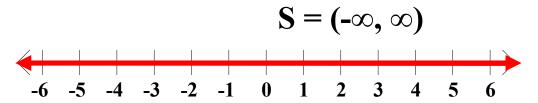


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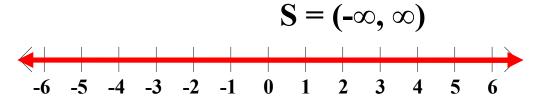
1. The entire set of real numbers is an unbounded interval.



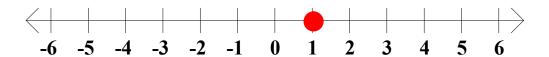
2. A set containing exactly one number is an interval.

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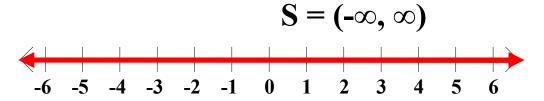


2. A set containing exactly one number is an interval.

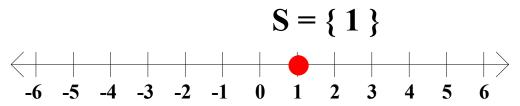


Interval Notation: Intervals can be defined using special notation. There are three other intervals to consider.

1. The entire set of real numbers is an unbounded interval.

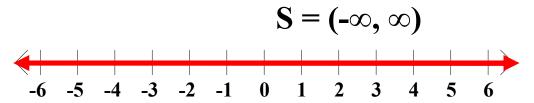


2. A set containing exactly one number is an interval.



Interval Notation: Intervals can be defined using special notation. There are three other intervals to consider.

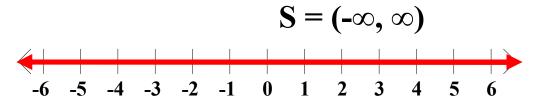
1. The entire set of real numbers is an unbounded interval.



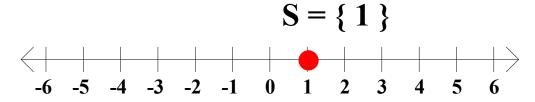
2. A set containing exactly one number is an interval.

Interval Notation: Intervals can be defined using special notation. There are three other intervals to consider.

1. The entire set of real numbers is an unbounded interval.



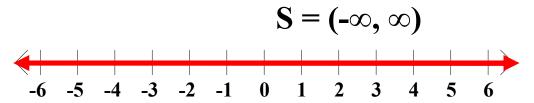
2. A set containing exactly one number is an interval.



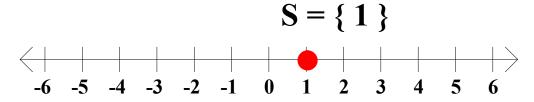


Interval Notation: Intervals can be defined using special notation. There are three other intervals to consider.

1. The entire set of real numbers is an unbounded interval.



2. A set containing exactly one number is an interval.



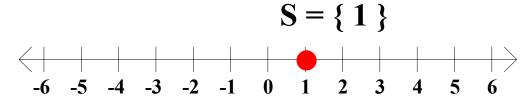
$$S = \{ \}$$
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

Interval Notation: Intervals can be defined using special notation. There are three other intervals to consider.

1. The entire set of real numbers is an unbounded interval.

$$S = (-\infty, \infty)$$
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

2. A set containing exactly one number is an interval.



For each of the following graphs, (a) write an appropriate inequality and (b) represent the graph using interval notation.

- 1. (a) _____
 - (b) _____



For each of the following graphs, (a) write an appropriate inequality and (b) represent the graph using interval notation.

- 1. (a) X
 - (b) _____



For each of the following graphs, (a) write an appropriate inequality and (b) represent the graph using interval notation.

1. (a)
$$X \leq$$

(b) _____



For each of the following graphs, (a) write an appropriate inequality and (b) represent the graph using interval notation.

1. (a)
$$x \le -2$$

(b) _____

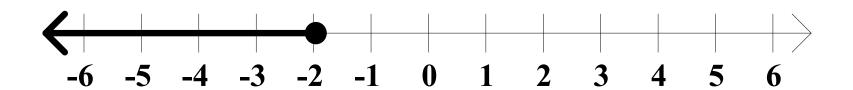


1. (a)
$$x \le -2$$



1. (a)
$$x \le -2$$

(b)
$$-\infty$$



1. (a)
$$x \le -2$$

(b)
$$(-\infty,$$



1. (a)
$$x \le -2$$

(b)
$$(-\infty, -2)$$

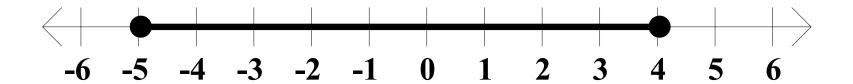


1. (a)
$$x \le -2$$

(b)
$$(-\infty, -2]$$



- 2. (a) _____
 - (b) _____





2. (a)
$$-5 \le$$



2. (a)
$$-5 \le x$$



2. (a)
$$-5 \le x \le$$



2. (a)
$$-5 \le x \le 4$$



2. (a)
$$-5 \le x \le 4$$



2. (a)
$$-5 \le x \le 4$$



2. (a)
$$-5 \le x \le 4$$



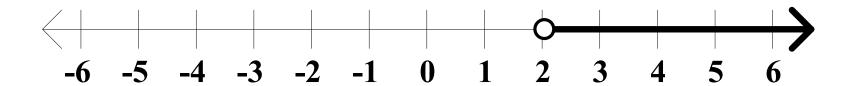
2. (a)
$$-5 \le x \le 4$$



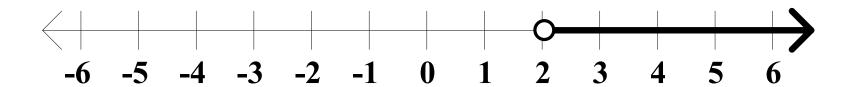
2. (a)
$$-5 \le x \le 4$$



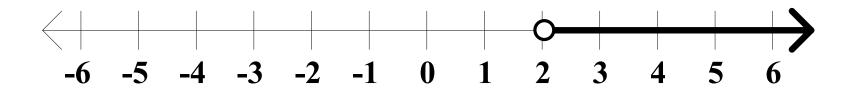
- 3. (a) _____
 - (b) _____



- 3. (a) X
 - (b) _____



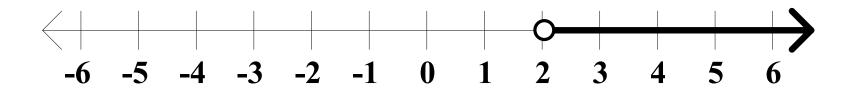
3. (a)
$$X >$$



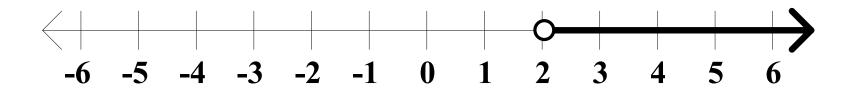
For each of the following graphs, (a) write an appropriate inequality and (b) represent the graph using interval notation.

3. (a)
$$x > 2$$

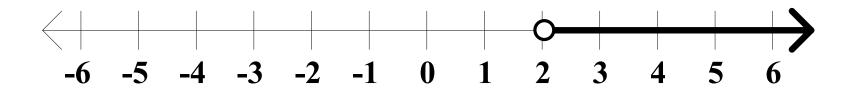
(b) _____



3. (a)
$$x > 2$$



3. (a)
$$x > 2$$



3. (a)
$$x > 2$$



3. (a)
$$x > 2$$

(b)
$$(2, \infty)$$

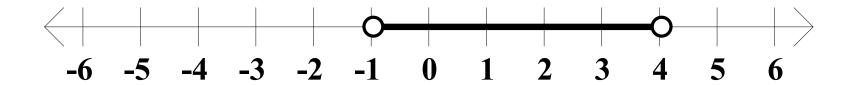


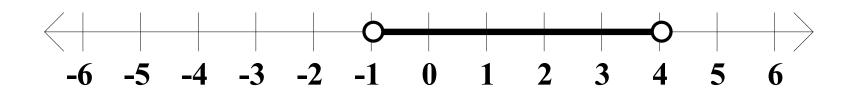
3. (a)
$$x > 2$$

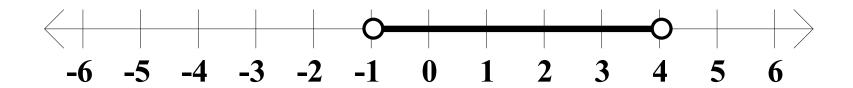
(b)
$$(2,\infty)$$



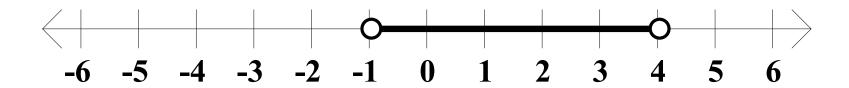
- 4. (a) _____
 - (b) _____



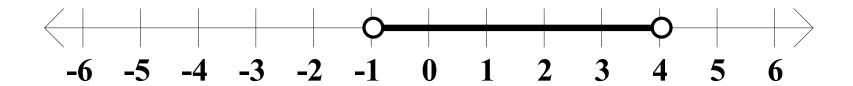




4. (a)
$$-1 < x$$



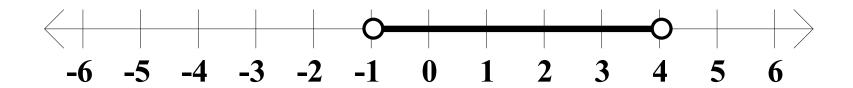
4. (a)
$$-1 < x <$$



4. (a)
$$-1 < x < 4$$



4. (a)
$$-1 < x < 4$$



4. (a)
$$-1 < x < 4$$



4. (a)
$$-1 < x < 4$$



4. (a)
$$-1 < x < 4$$

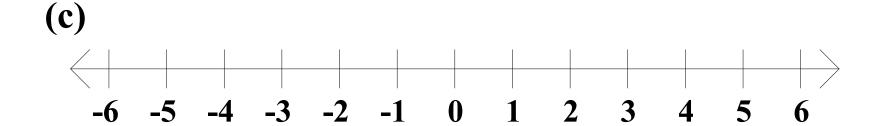


4. (a)
$$-1 < x < 4$$

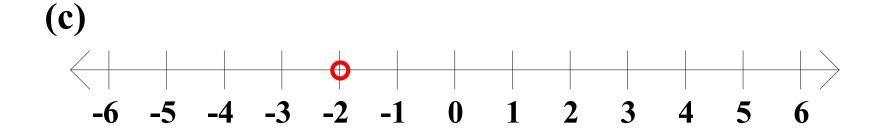
(b)
$$(-1,4)$$



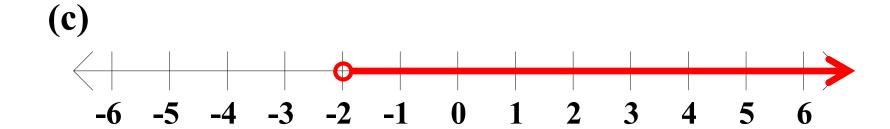
5.
$$(-2, \infty)$$



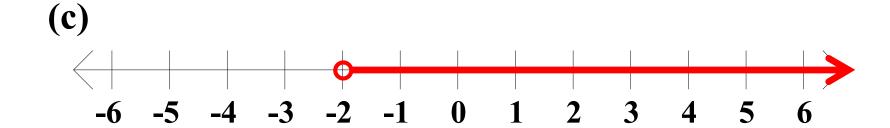
5.
$$(-2, \infty)$$



5.
$$(-2, \infty)$$

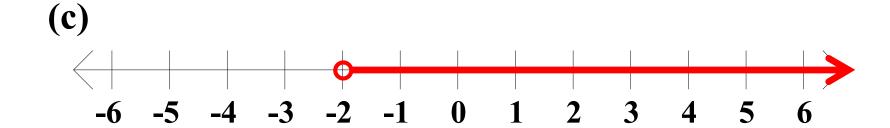


5.
$$(-2, \infty)$$



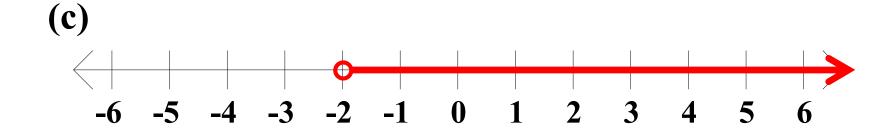
5.
$$(-2, \infty)$$

$$(a) \underline{\qquad x>}$$



5.
$$(-2, \infty)$$

$$(a) \underline{\qquad \qquad x > -2}$$

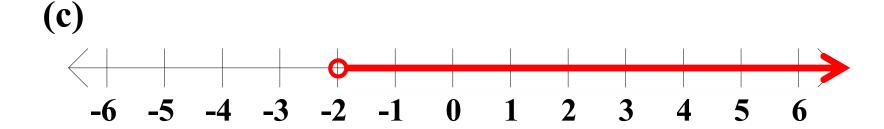


For each of the following intervals, (a) write an appropriate inequality, (b) tell whether it is bounded or unbounded, and (c) sketch its graph.

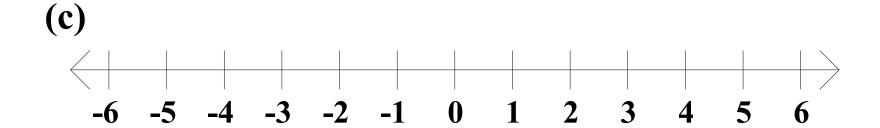
5.
$$(-2, \infty)$$

$$(a) \underline{\qquad \qquad x > -2}$$

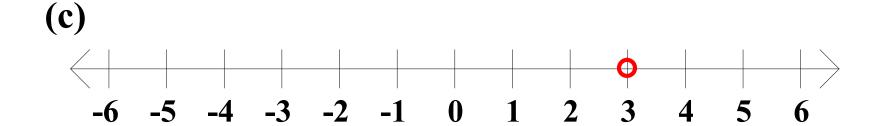
(b) <u>unbounded</u>



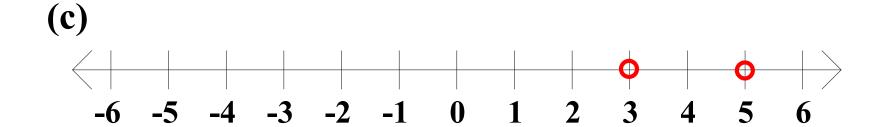
6.
$$(3,5)$$



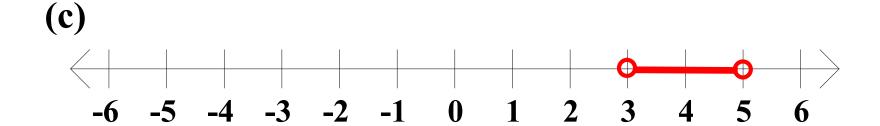
6.
$$(3,5)$$



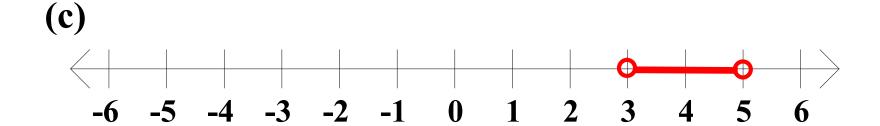
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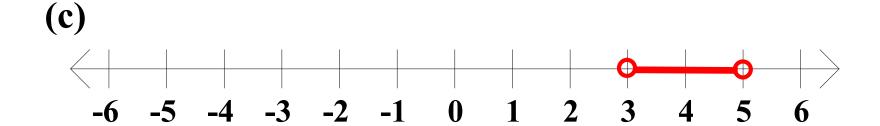


6.
$$(3,5)$$



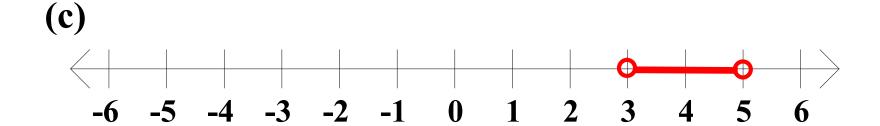
6.
$$(3,5)$$

$$(a) \underline{\qquad \qquad 3 < \qquad \qquad }$$

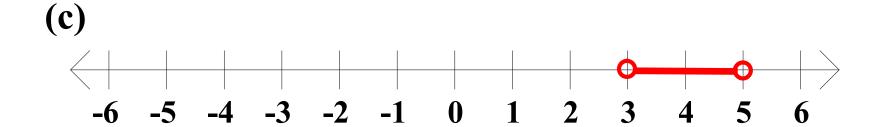


6.
$$(3,5)$$

$$(a) \underline{\qquad \qquad 3 < x}$$

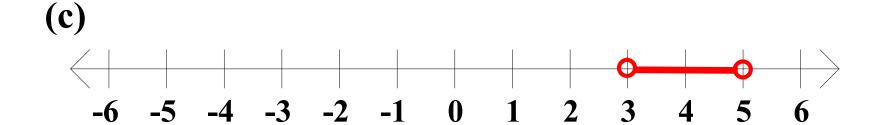


6.
$$(3,5)$$



6.
$$(3,5)$$

(a)
$$3 < x < 5$$



For each of the following intervals, (a) write an appropriate inequality, (b) tell whether it is bounded or unbounded, and (c) sketch its graph.

6.
$$(3,5)$$

$$(a) 3 < x < 5$$

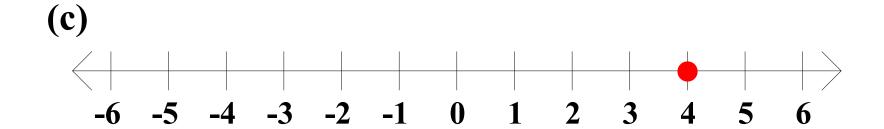
(b) <u>bounded</u>



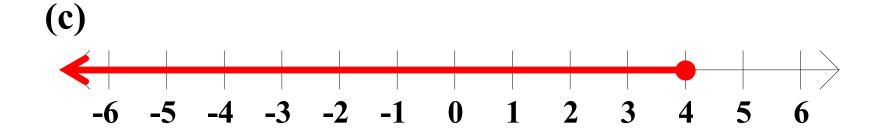
7.
$$(-\infty, 4]$$



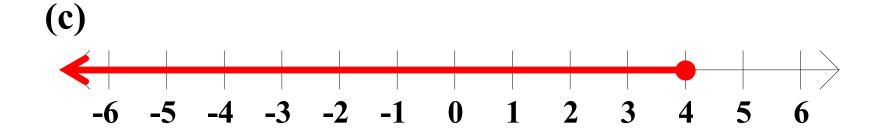
7.
$$(-\infty, 4]$$



7.
$$(-\infty, 4]$$

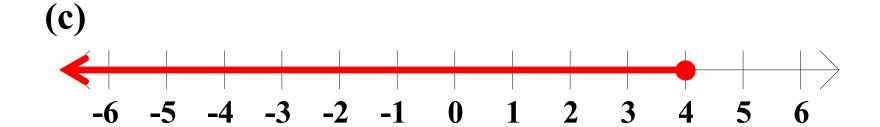


7.
$$(-\infty, 4]$$



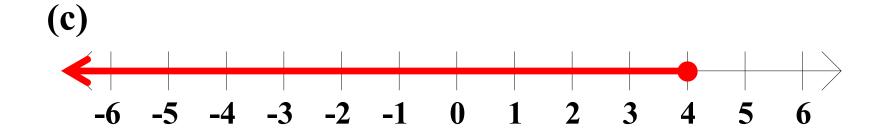
7.
$$(-\infty, 4]$$

$$(a) \underline{\qquad x \leq \qquad}$$



7.
$$(-\infty, 4]$$

$$(a) \underline{\qquad x \leq 4}$$

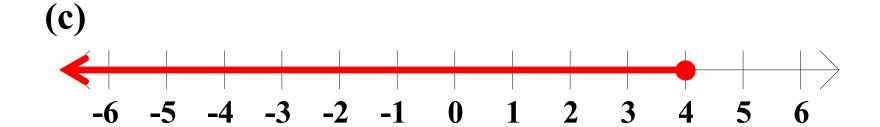


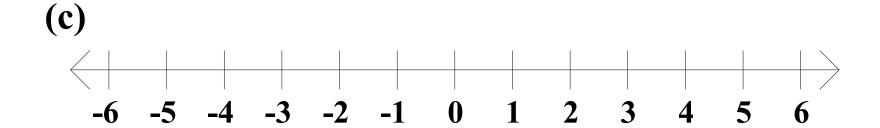
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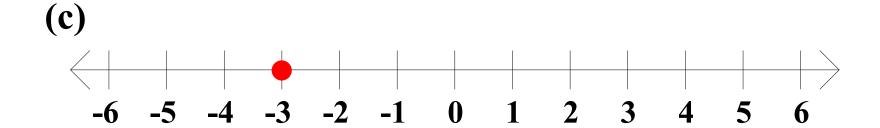
7.
$$(-\infty, 4]$$

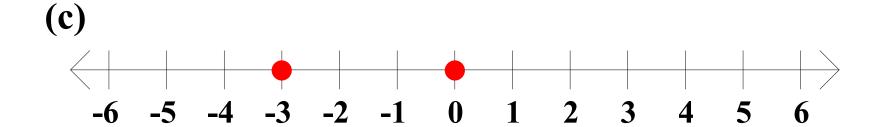
$$(a) \underline{\qquad x \leq 4}$$

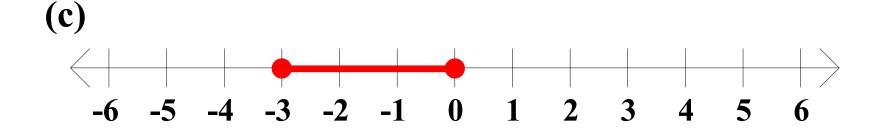
(b) <u>unbounded</u>

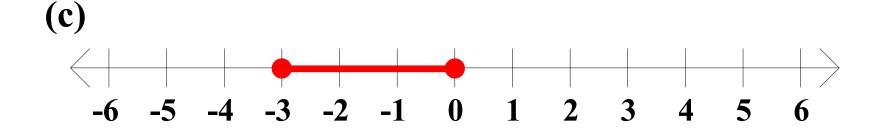




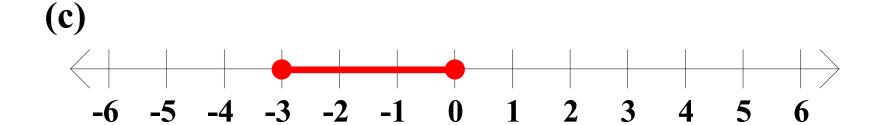




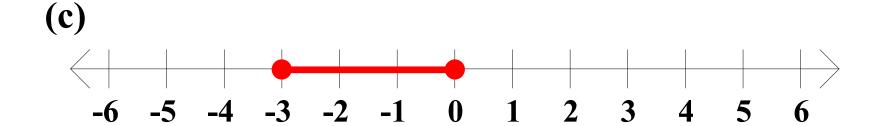




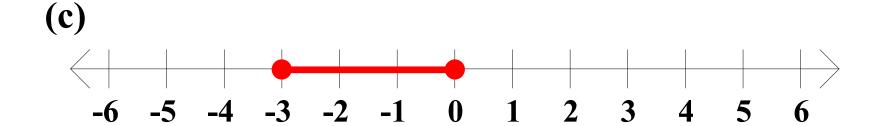
$$(a) \underline{-3 \leq}$$



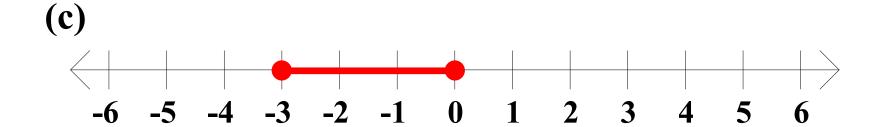
(a)
$$-3 \le x$$



(a)
$$-3 \le x \le$$



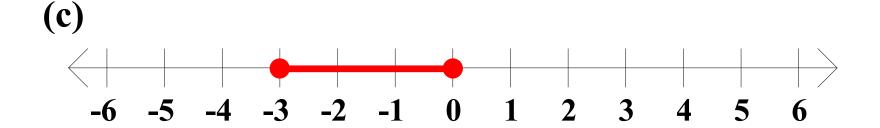
(a)
$$-3 \le x \le 0$$



For each of the following intervals, (a) write an appropriate inequality, (b) tell whether it is bounded or unbounded, and (c) sketch its graph.

$$(a) \quad -3 \le x \le 0$$

(b) <u>bounded</u>



Solve each of the following inequalities. Then express the solution set using interval notation and sketch its graph.

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

Solve each of the following inequalities. Then express the solution set using interval notation and sketch its graph.

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x +$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 -$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x -$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x -$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x \ge 8$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x \ge 10$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x \ge 10$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

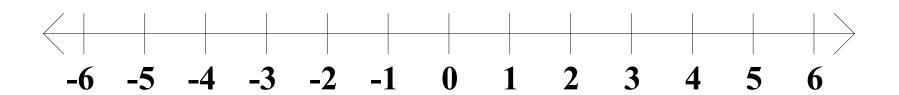
 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x \ge 10$
 $x \ge 10$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x \ge 10$
 $x \ge 1$

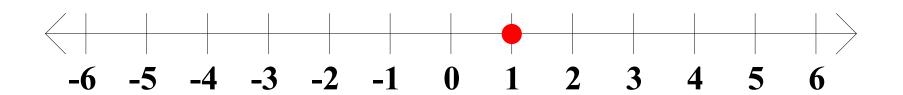
9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x \ge 10$
 $x \ge 1$



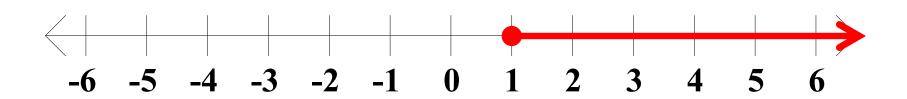
9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x \ge 10$
 $x \ge 1$



9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x \ge 10$
 $x \ge 1$



9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x \ge 10$
 $x \ge 1$
 $S =$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x \ge 10$
 $x \ge 1$
 $S = [$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x \ge 10$
 $x \ge 1$
 $S = \begin{bmatrix} 1 \end{bmatrix}$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x \ge 10$
 $x \ge 1$
 $S = \begin{bmatrix} 1 \\ 4 \end{bmatrix}$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x \ge 10$
 $x \ge 1$
 $S = \begin{bmatrix} 1, \infty \end{bmatrix}$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x \ge 10$
 $x \ge 1$
 $S = [1, \infty)$

9.
$$4(3x + 2) - 2(x + 5) \ge 8$$

 $12x + 8 - 2x - 10 \ge 8$
 $10x - 2 \ge 8$
 $10x \ge 10$
 $x \ge 1$
 $S = \begin{bmatrix} 1, \infty \end{bmatrix}$

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

15x

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

15x +

10.
$$5(3x+1)-4(5x-3) > 2$$

15x + 5

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 -$

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x$

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x +$

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12$

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12 >$

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12 > 2$

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12 > 2$
 $-5x$

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12 > 2$
 $-5x +$

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12 > 2$
 $-5x + 17$

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12 > 2$
 $-5x + 17 >$

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

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 $-5x + 17 > 2$

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 $15x + 5 - 20x + 12 > 2$
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 $-5x > -15$

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$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12 > 2$
 $-5x + 17 > 2$
 $-5x > -15$

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

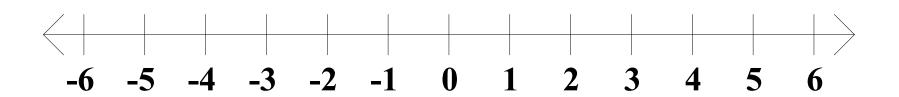
 $15x + 5 - 20x + 12 > 2$
 $-5x + 17 > 2$
 $-5x > -15$
 $x <$

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12 > 2$
 $-5x + 17 > 2$
 $-5x > -15$
 $x < 3$

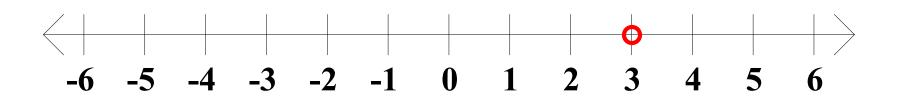
10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12 > 2$
 $-5x + 17 > 2$
 $-5x > -15$
 $x < 3$



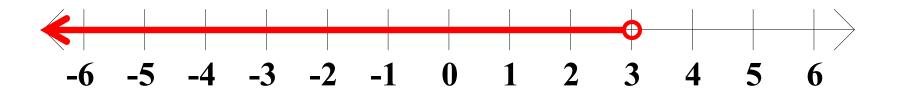
10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12 > 2$
 $-5x + 17 > 2$
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10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12 > 2$
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10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12 > 2$
 $-5x + 17 > 2$
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 $S =$

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12 > 2$
 $-5x + 17 > 2$
 $-5x > -15$
 $x < 3$
 $S = ($

10.
$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12 > 2$
 $-5x + 17 > 2$
 $-5x > -15$
 $x < 3$
 $S = (-\infty)$

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 $15x + 5 - 20x + 12 > 2$
 $-5x + 17 > 2$
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 $S = (-\infty,$

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 $15x + 5 - 20x + 12 > 2$
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 $-5x > -15$
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 $15x + 5 - 20x + 12 > 2$
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 $-5x > -15$
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 $S = (-\infty, 3)$

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$$5(3x + 1) - 4(5x - 3) > 2$$

 $15x + 5 - 20x + 12 > 2$
 $-5x + 17 > 2$
 $-5x > -15$
 $x < 3$
 $S = (-\infty, 3)$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

12x

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

12x -

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x+$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x+5$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x+5$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x+5$
 $4x+$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x+5$
 $4x+3$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x+5$
 $4x+3 \le$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x+5$
 $4x+3 \le -6x$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x+5$
 $4x+3 \le -6x-$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x+5$
 $4x+3 \le -6x-7$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x+5$
 $4x+3 \le -6x-7$
 $10x$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x+5$
 $4x+3 \le -6x-7$
 $10x \le -6x-7$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x+5$
 $4x+3 \le -6x-7$
 $10x \le -10$

11.
$$3(4x-3) - 4(2x-3) \le 4(x-3) - 5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x+5$
 $4x+3 \le -6x-7$
 $10x \le -10$

11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

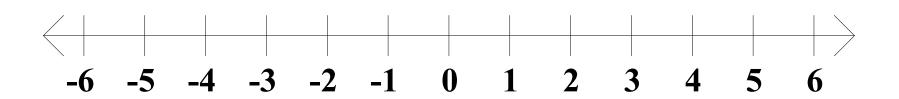
 $12x-9-8x+12 \le 4x-12-10x+5$
 $4x+3 \le -6x-7$
 $10x \le -10$
 $x \le -10$

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$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x+5$
 $4x+3 \le -6x-7$
 $10x \le -10$
 $x \le -1$

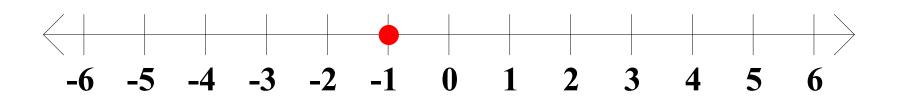
11.
$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

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 $x \le -1$



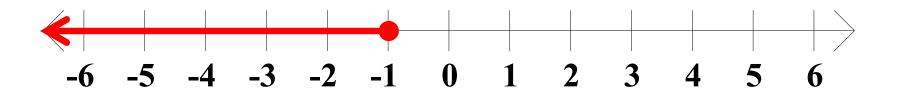
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 $10x \le -10$
 $x \le -1$
 $S =$

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$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

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 $x \le -1$
 $S = ($

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$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

 $12x-9-8x+12 \le 4x-12-10x+5$
 $4x+3 \le -6x-7$
 $10x \le -10$
 $x \le -1$
 $S = (-\infty)$

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$$3(4x-3)-4(2x-3) \le 4(x-3)-5(2x-1)$$

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 $10x \le -10$
 $x \le -1$
 $S = (-\infty, -1]$

12.
$$2 \le 5x - 3 \le 12$$

12.
$$2 \le 5x - 3 \le 12$$

12.
$$2 \le 5x - 3 \le 12$$

 $5 \le$

12.
$$2 \le 5x - 3 \le 12$$

 $5 \le 5x$

12.
$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le$

12.
$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le 15$

12.
$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le 15$
1

12.
$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le 15$
 $1 \le$

12.
$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le 15$
 $1 \le x$

12.
$$2 \le 5x - 3 \le 12$$

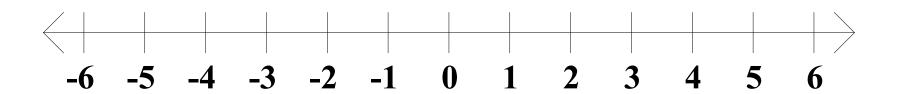
 $5 \le 5x \le 15$
 $1 \le x \le$

12.
$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le 15$
 $1 \le x \le 3$

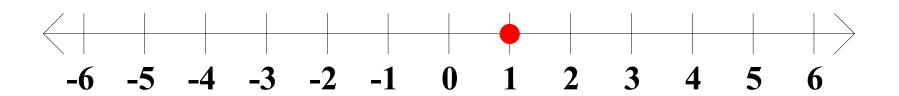
12.
$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le 15$
 $1 \le x \le 3$



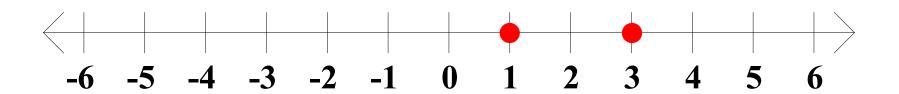
12.
$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le 15$
 $1 \le x \le 3$



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$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le 15$
 $1 \le x \le 3$



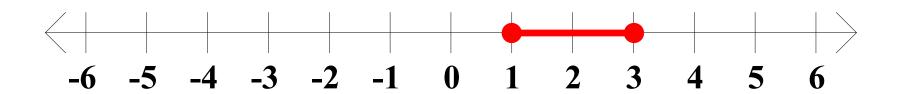
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$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le 15$
 $1 \le x \le 3$



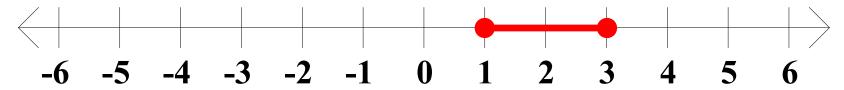
12.
$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le 15$
 $1 \le x \le 3$



12.
$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le 15$
 $1 \le x \le 3$
 $S = [$



12.
$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le 15$
 $1 \le x \le 3$
 $S = [1]$



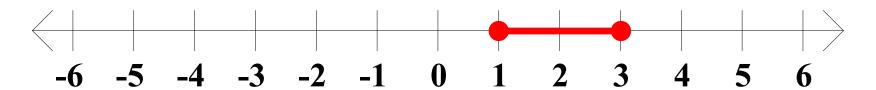
12.
$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le 15$
 $1 \le x \le 3$
 $S = [1,$



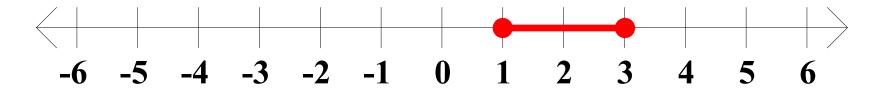
12.
$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le 15$
 $1 \le x \le 3$
 $S = [1, 3]$



12.
$$2 \le 5x - 3 \le 12$$

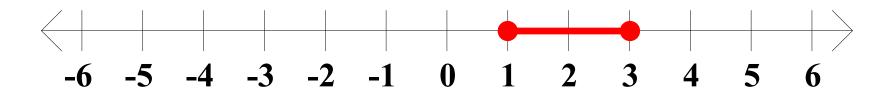
 $5 \le 5x \le 15$
 $1 \le x \le 3$
 $S = [1, 3]$



12.
$$2 \le 5x - 3 \le 12$$

 $5 \le 5x \le 15$
 $1 \le x \le 3$
 $S = \begin{bmatrix} 1 & 3 \end{bmatrix}$

$$S = [1, 3]$$



13.
$$-3 < 4x + 9 < 15$$

13.
$$-3 < 4x + 9 < 15$$
 -12

13.
$$-3 < 4x + 9 < 15$$
 $-12 <$

13.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x$

13.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x <$

13.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x < 6$

13.
$$-3 < 4x + 9 < 15$$
 $-12 < 4x < 6$
 -3

13.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x < 6$
 $-3 <$

13.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x < 6$
 $-3 < x$

13.
$$-3 < 4x + 9 < 15$$

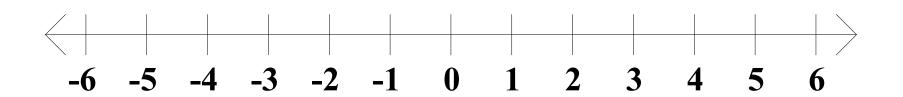
 $-12 < 4x < 6$
 $-3 < x <$

13.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x < 6$
 $-3 < x < 1.5$

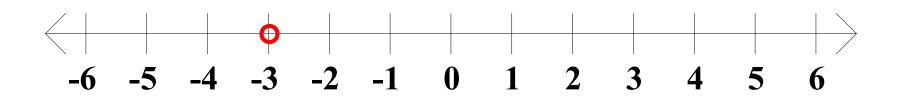
13.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x < 6$
 $-3 < x < 1.5$



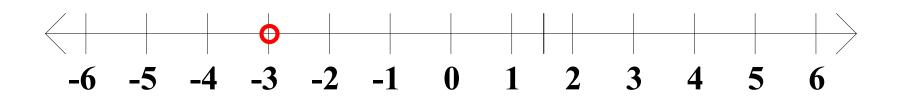
13.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x < 6$
 $-3 < x < 1.5$



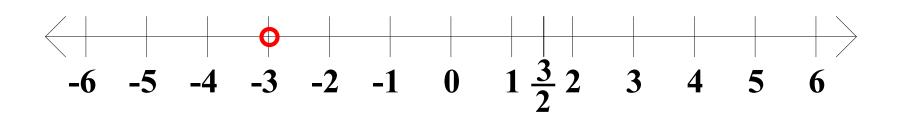
13.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x < 6$
 $-3 < x < 1.5$



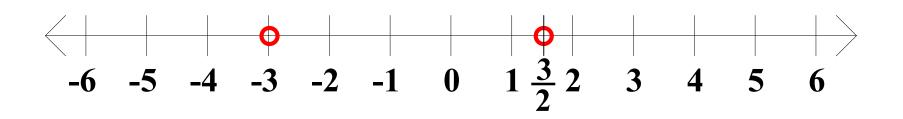
13.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x < 6$
 $-3 < x < 1.5$



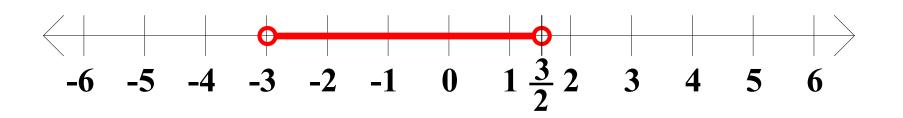
13.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x < 6$
 $-3 < x < 1.5$

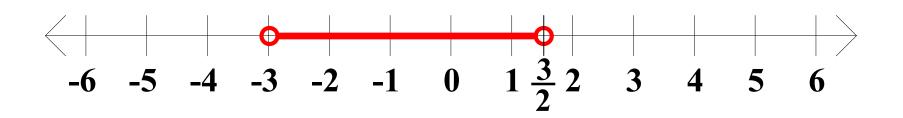


13.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x < 6$
 $-3 < x < 1.5$

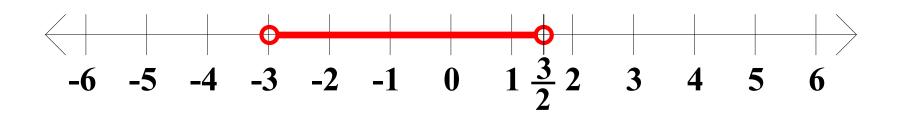


13.
$$-3 < 4x + 9 < 15$$
 $-12 < 4x < 6$
 $-3 < x < 1.5$
 $S =$



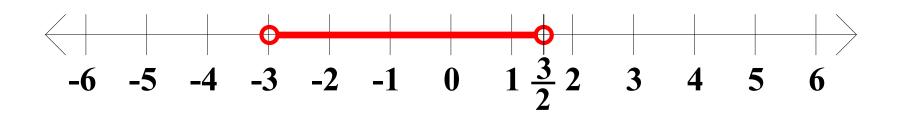
13.
$$-3 < 4x + 9 < 15$$
 $-12 < 4x < 6$
 $-3 < x < 1.5$

$$S = ($$



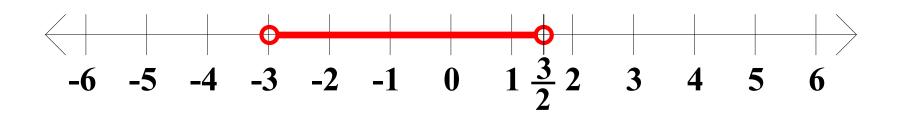
13.
$$-3 < 4x + 9 < 15$$
 $-12 < 4x < 6$
 $-3 < x < 1.5$

$$S = (-3)$$



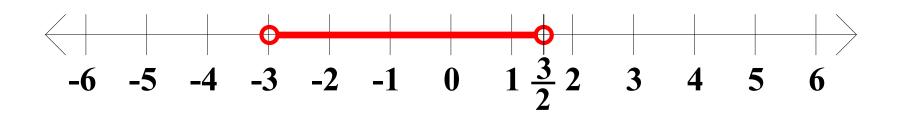
13.
$$-3 < 4x + 9 < 15$$
 $-12 < 4x < 6$
 $-3 < x < 1.5$

$$S = (-3,$$



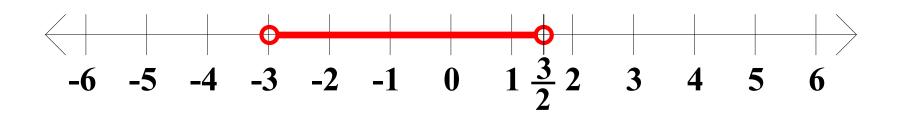
13.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x < 6$
 $-3 < x < 1.5$
 $S = (-3, 1.5)$



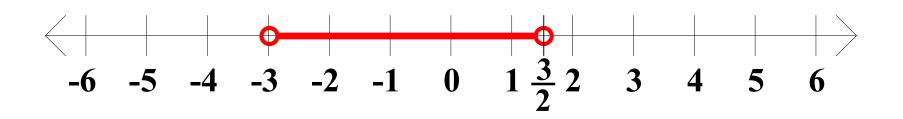
13.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x < 6$
 $-3 < x < 1.5$
 $S = (-3, 1.5)$



13.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x < 6$
 $-3 < x < 1.5$
 $S = (-3, 1.5)$



14.
$$-5 < 3x + 5 \le 5$$

14.
$$-5 < 3x + 5 \le 5$$
 -10

14.
$$-5 < 3x + 5 \le 5$$
 $-10 <$

14.
$$-5 < 3x + 5 \le 5$$

 $-10 < 3x$

14.
$$-5 < 3x + 5 \le 5$$

 $-10 < 3x \le$

14.
$$-5 < 3x + 5 \le 5$$

 $-10 < 3x \le 0$

14.
$$-5 < 3x + 5 \le 5$$

 $-10 < 3x \le 0$
 $-\frac{10}{3}$

14.
$$-5 < 3x + 5 \le 5$$

 $-10 < 3x \le 0$
 $-\frac{10}{3} <$

14.
$$-5 < 3x + 5 \le 5$$

 $-10 < 3x \le 0$
 $-\frac{10}{3} < x$

14.
$$-5 < 3x + 5 \le 5$$

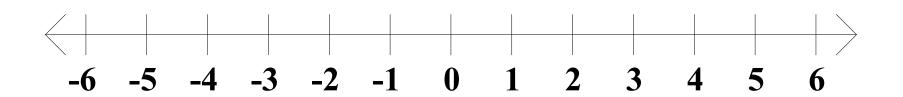
 $-10 < 3x \le 0$
 $-\frac{10}{3} < x \le$

14.
$$-5 < 3x + 5 \le 5$$

 $-10 < 3x \le 0$
 $-\frac{10}{3} < x \le 0$

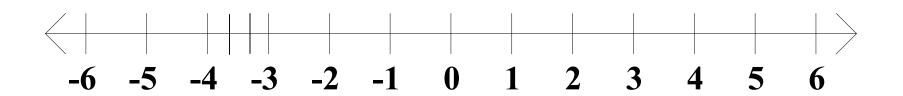
14.
$$-5 < 3x + 5 \le 5$$

 $-10 < 3x \le 0$
 $-\frac{10}{3} < x \le 0$



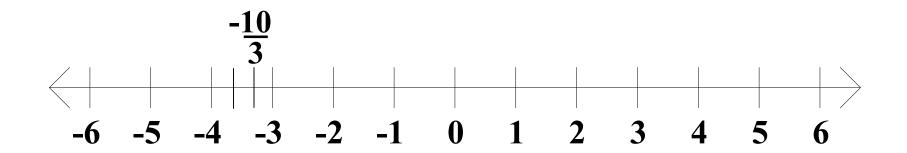
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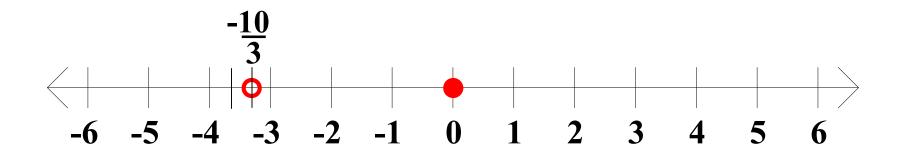
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 $-10 < 3x \le 0$
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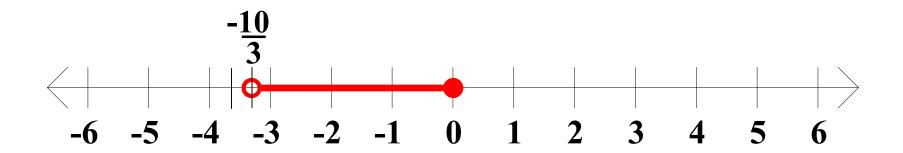
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14.
$$-5 < 3x + 5 \le 5$$

 $-10 < 3x \le 0$
 $-\frac{10}{3} < x \le 0$
 $S =$

$$-\frac{10}{3}$$

$$-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6$$

$$14. -5 < 3x + 5 \le 5$$

$$-10 < 3x \le 0$$

$$-\frac{10}{3} < x \le 0$$

$$S = ($$

$$-\frac{10}{3}$$

$$-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6$$

$$14. -5 < 3x + 5 \le 5$$

$$-10 < 3x \le 0$$

$$-\frac{10}{3} < x \le 0$$

$$S = (-\frac{10}{3})$$

$$-\frac{10}{3}$$

$$-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6$$

$$14. -5 < 3x + 5 \le 5$$

$$-10 < 3x \le 0$$

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$$-\frac{10}{3}$$

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$$-5 < 3x + 5 \le 5$$

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15.
$$-12 < -2x - 3 < 4$$

15.
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$$-12 < -2x - 3 < 4$$
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15.
$$-12 < -2x - 3 < 4$$
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 $\frac{9}{2} > x$

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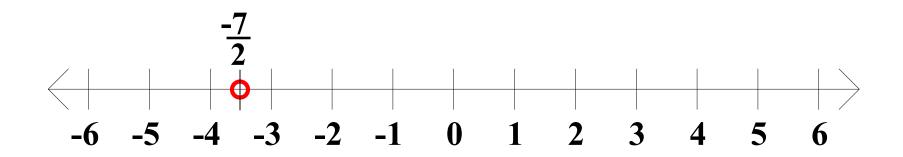
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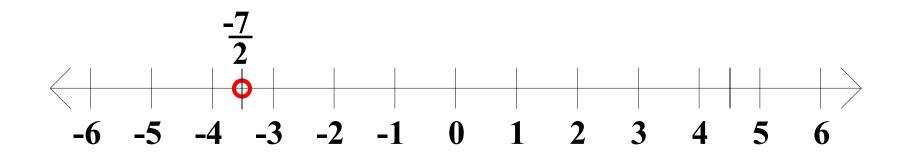
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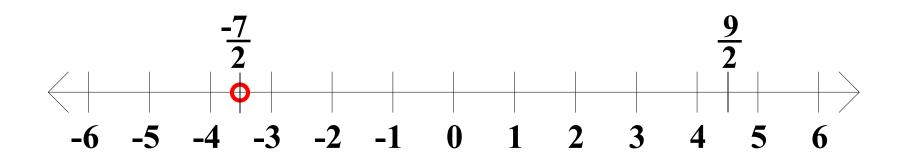
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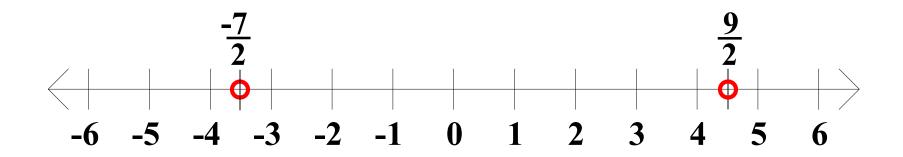
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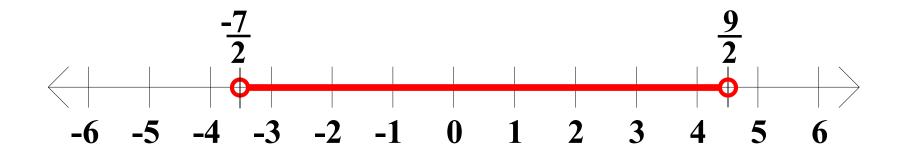
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16.
$$-1 \le \frac{2x+3}{3} \le 5$$

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$$16. \quad -1 \le \frac{2x+3}{3} \le 5$$
$$-3 \le$$

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 $-3 \le 2x$

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$$-1 \le \frac{2x+3}{3} \le 5$$

 $-3 \le 2x +$

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 $-3 \le 2x+3 \le 15$
 -6

16.
$$-1 \le \frac{2x+3}{3} \le 5$$

 $-3 \le 2x+3 \le 15$
 $-6 \le$

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 $-3 \le 4$

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 $-6 \le 2x \le 12$
 $-3 \le x$

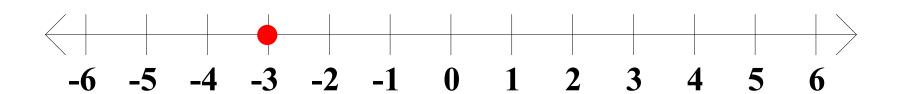
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$$-1 \le \frac{2x+3}{3} \le 5$$
 $-3 \le 2x+3 \le 15$
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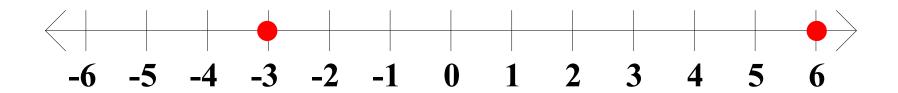
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$$-1 \le \frac{2x+3}{3} \le 5$$
 $-3 \le 2x+3 \le 15$
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$$-1 \le \frac{2x+3}{3} \le 5$$

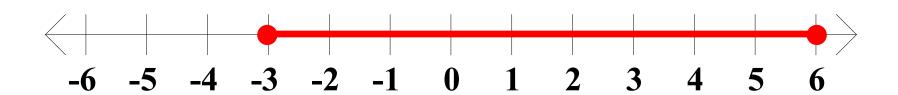
 $-3 \le 2x+3 \le 15$
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$$-1 \le \frac{2x+3}{3} \le 5$$

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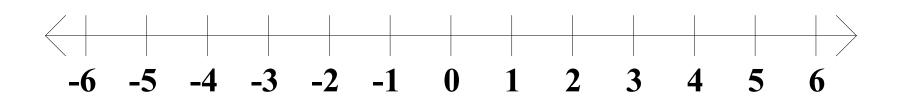
Algebra II Class Worksheet #2 Unit 1 Express each of the following as a single interval.

17.
$$[1,4) \cap (-2,3] =$$

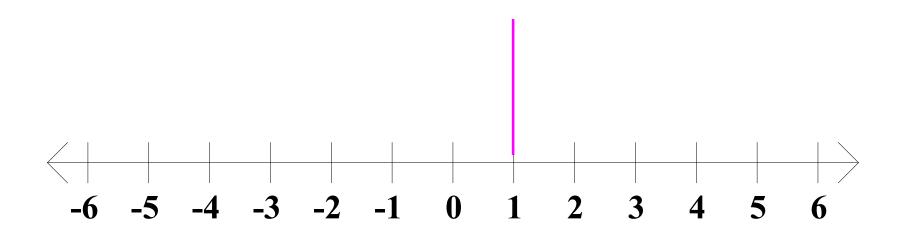
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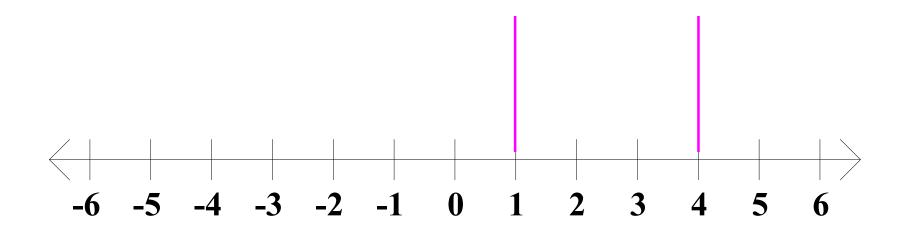
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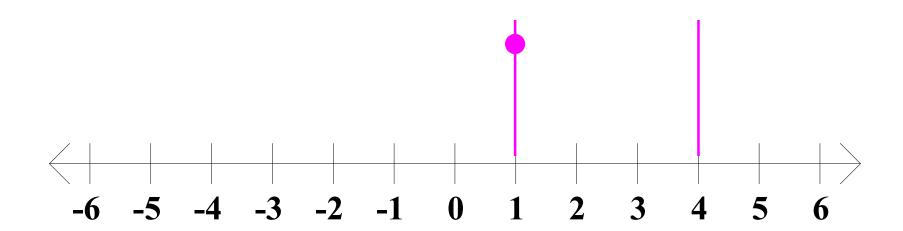
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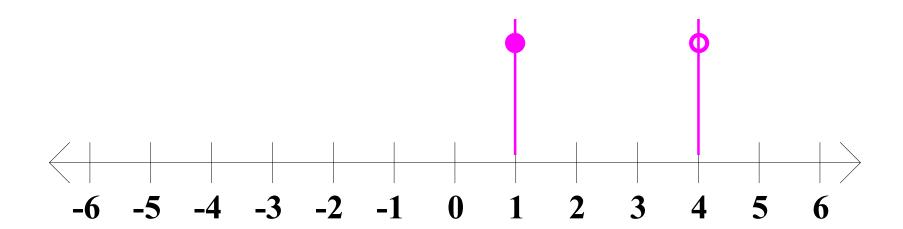
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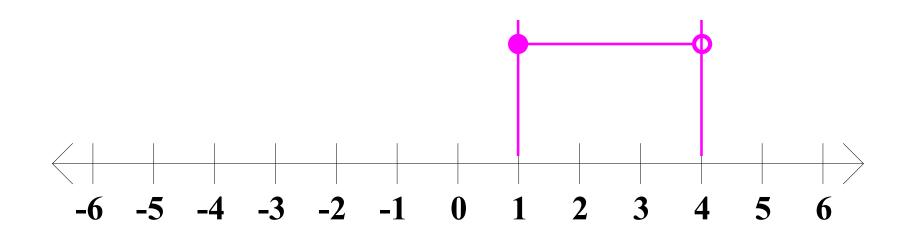
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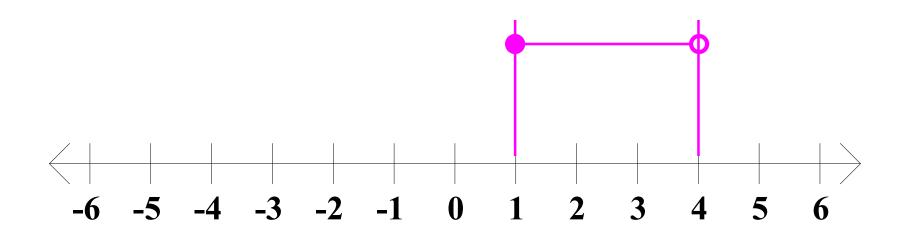
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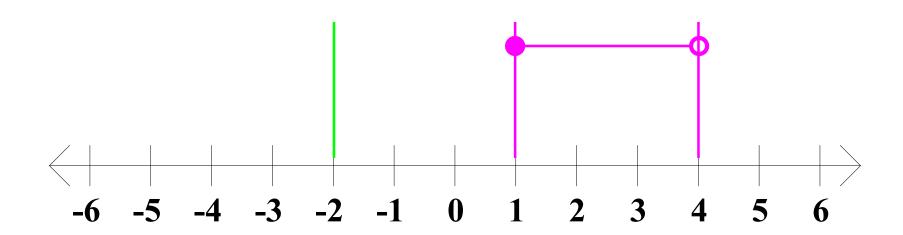
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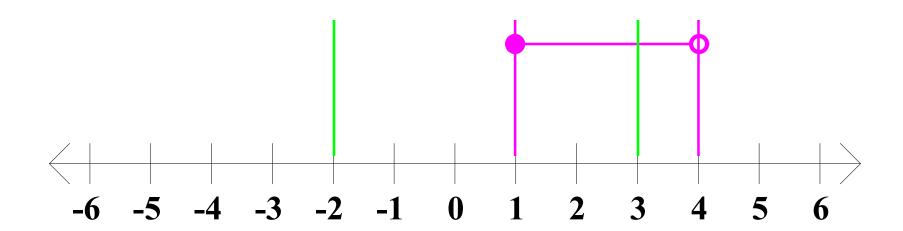
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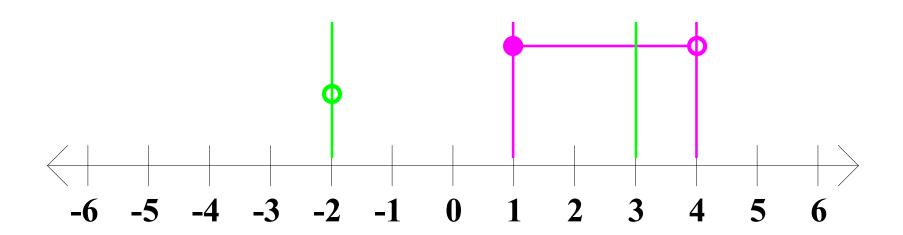
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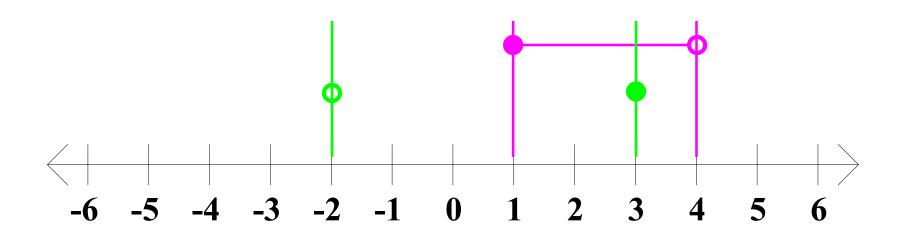
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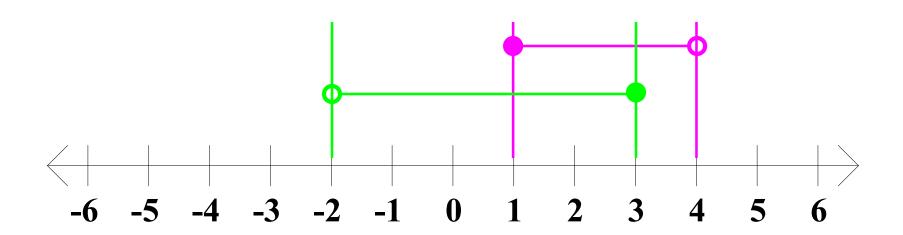
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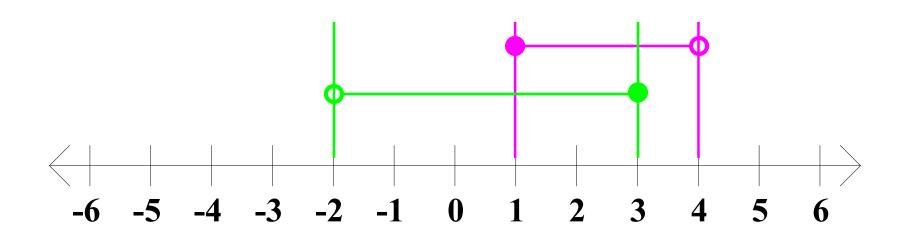
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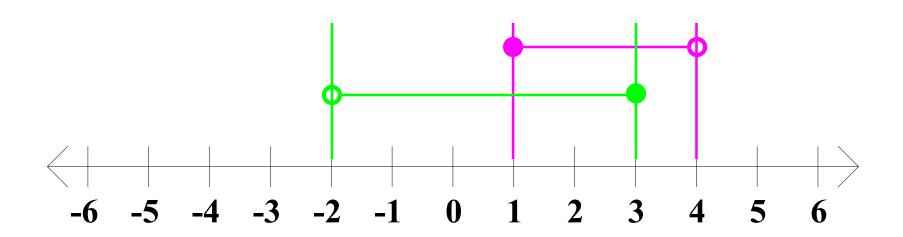


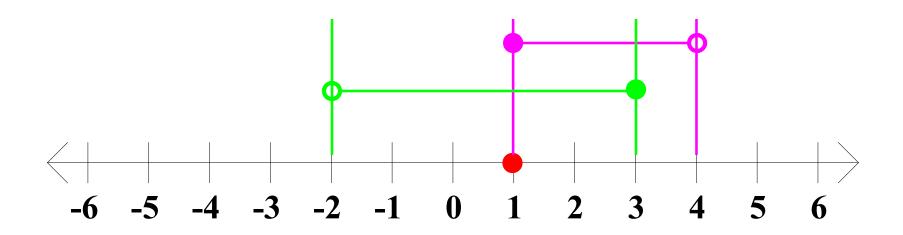
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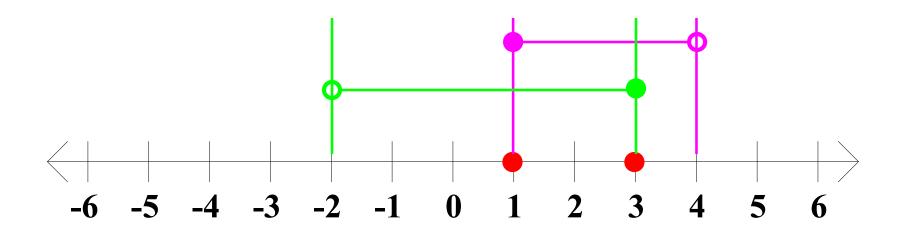


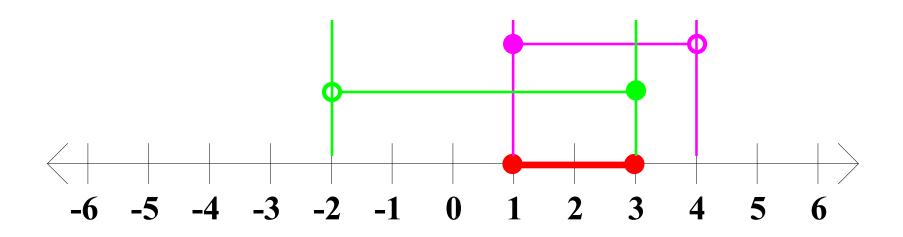
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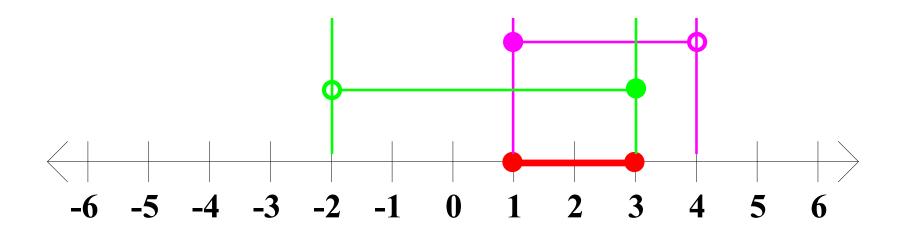




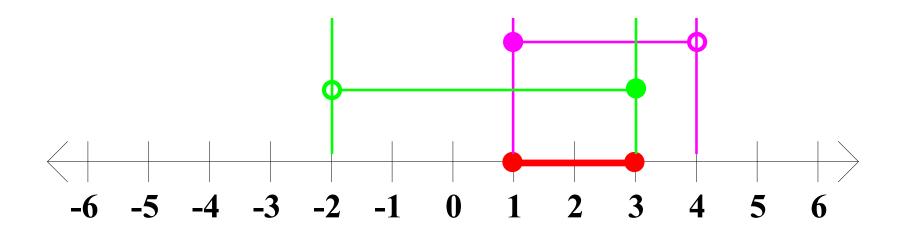




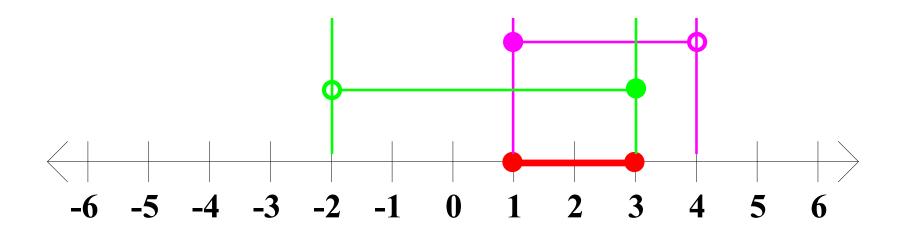
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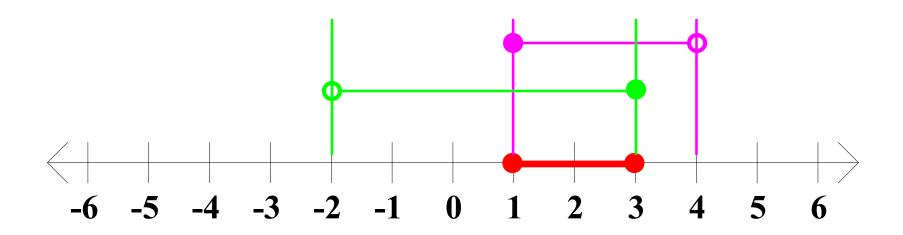
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 (-2,3] = $[1]$ intersection



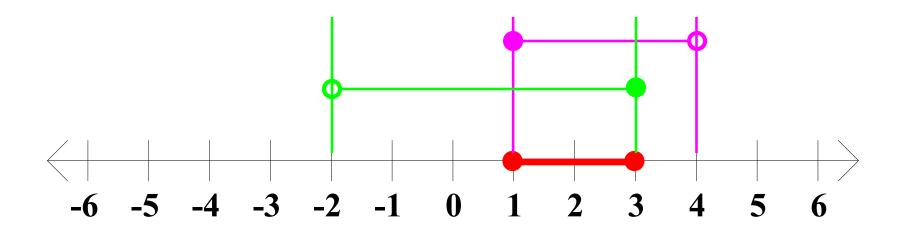
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$$[1,4)$$
 (-2,3] = $[1,$ intersection



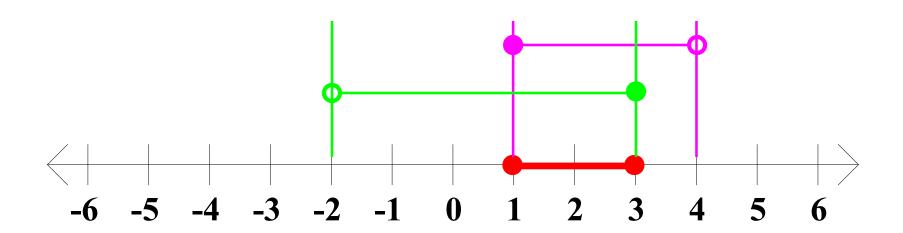
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$$[1,4)$$
 (-2,3] = $[1,3]$ intersection



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$$[1,4)$$
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$$[1,4)$$
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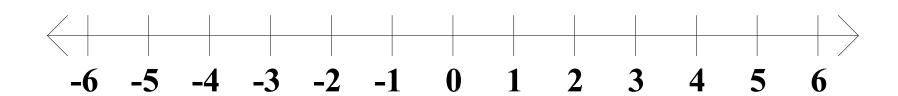
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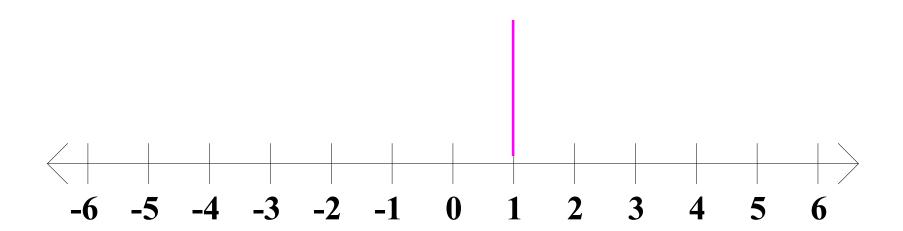
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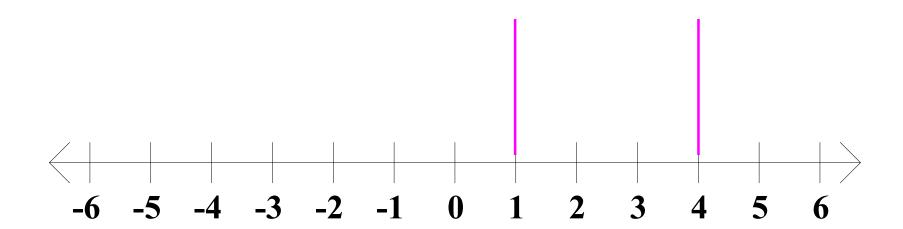
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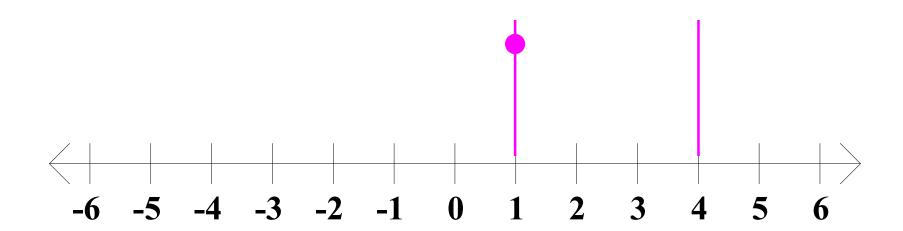
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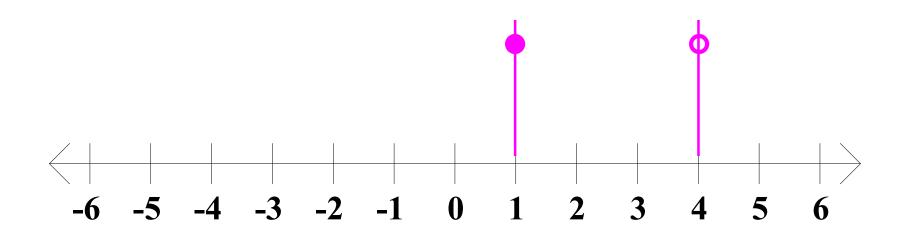
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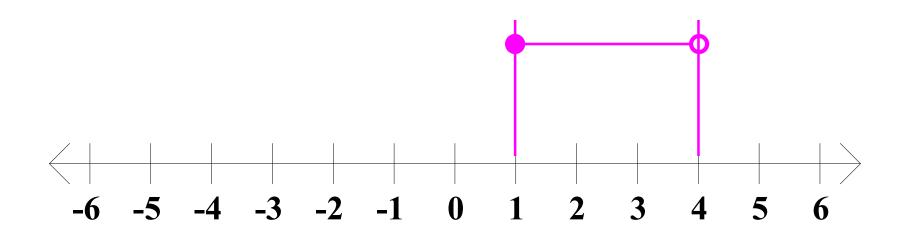
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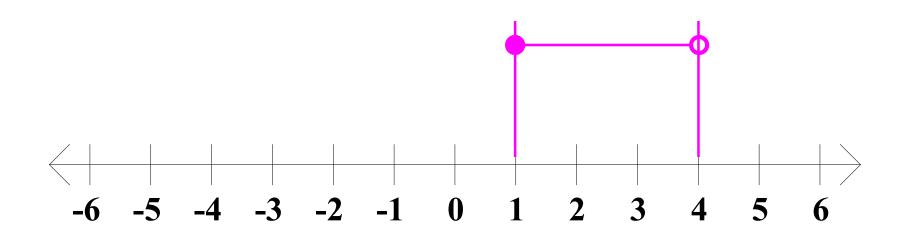
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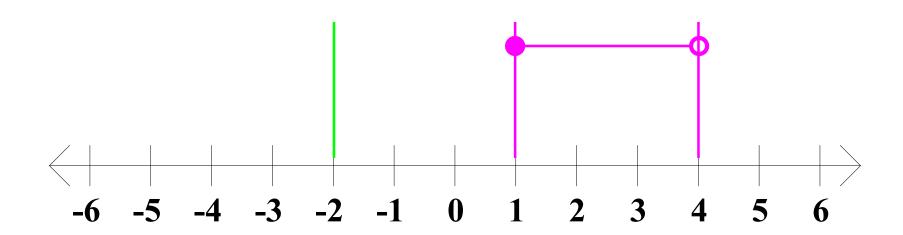
18.
$$[1,4) \cup (-2,3] =$$



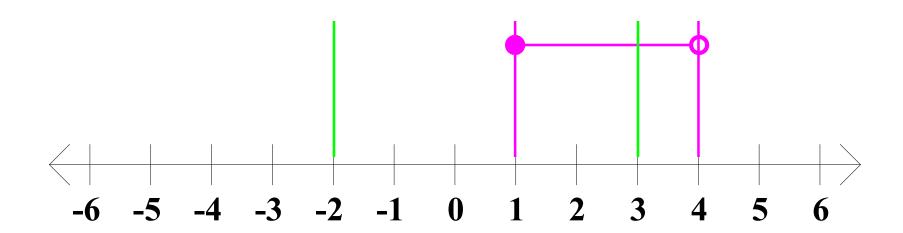
18.
$$[1,4) \cup (-2,3] =$$



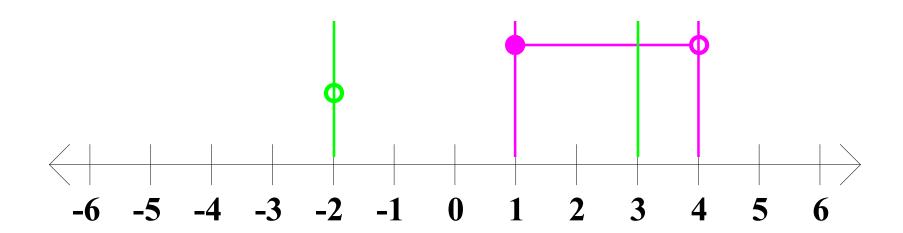
18.
$$[1,4) \cup (-2,3] =$$



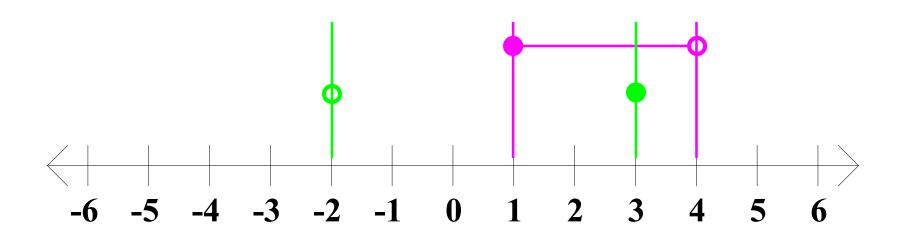
18.
$$[1,4) \cup (-2,3] =$$



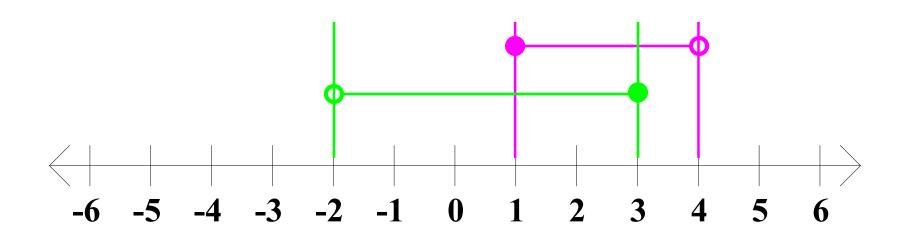
18.
$$[1,4) \cup (-2,3] =$$

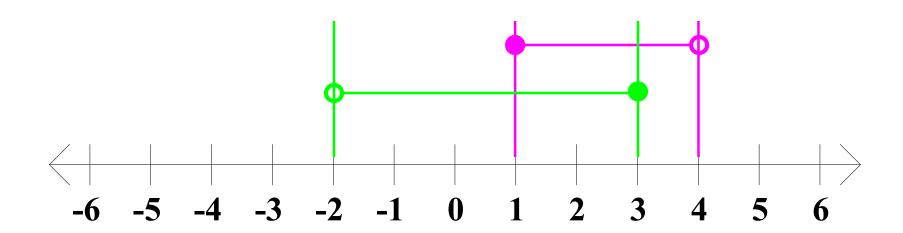


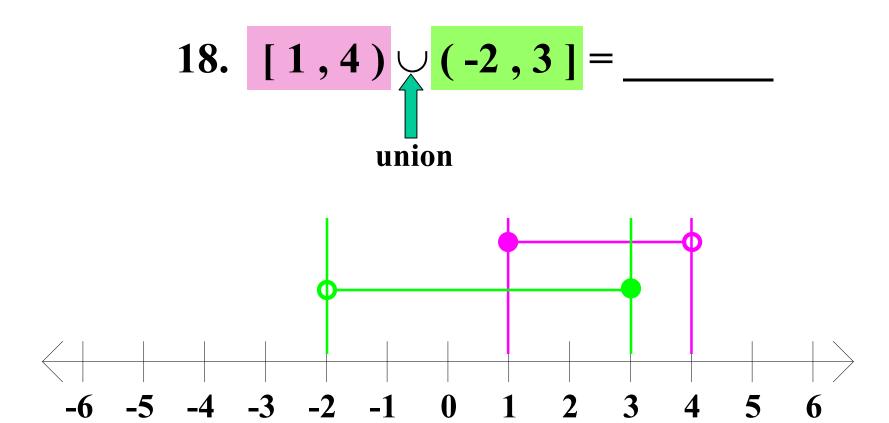
18.
$$[1,4) \cup (-2,3] =$$

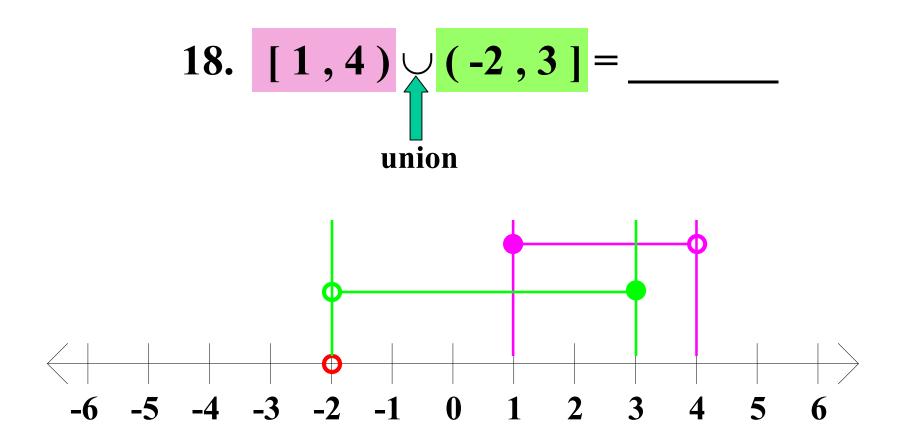


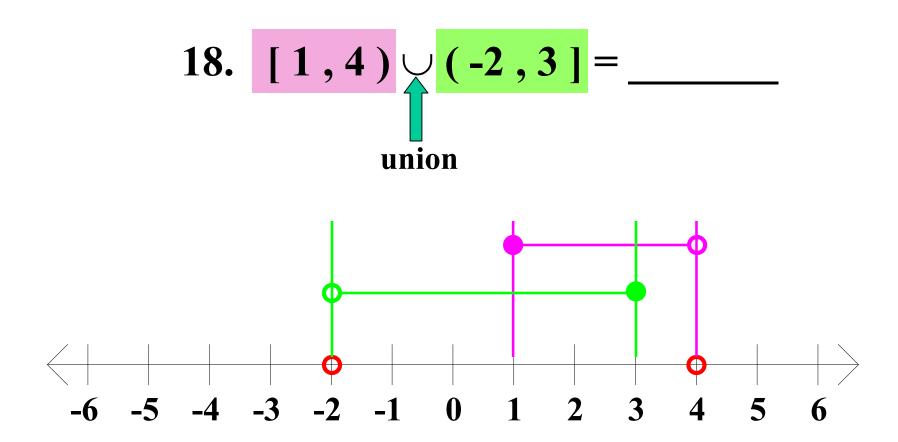
18.
$$[1,4) \cup (-2,3] =$$

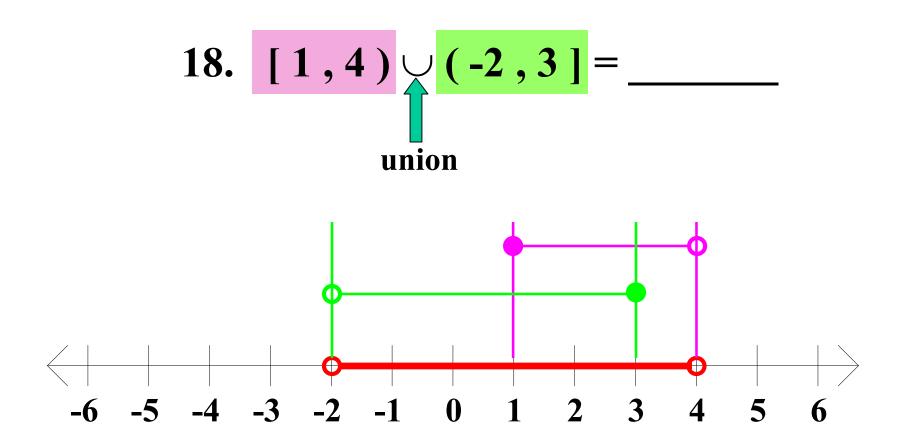






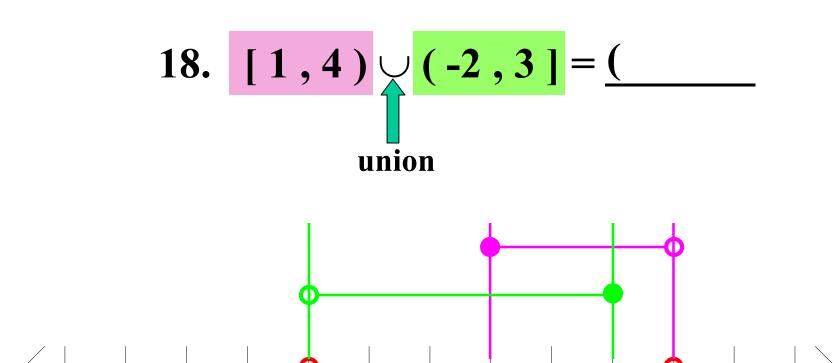




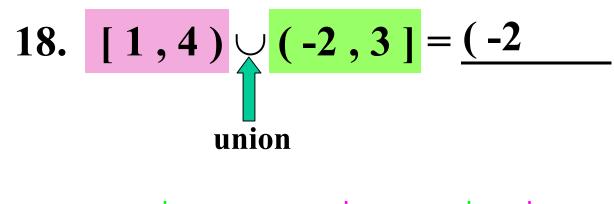


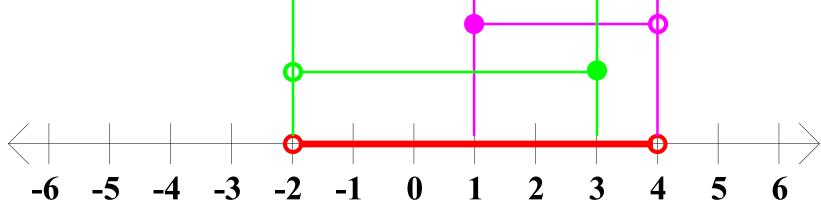
Express each of the following as a single interval.

-6 -5 -4 -3 -2 -1 0 1



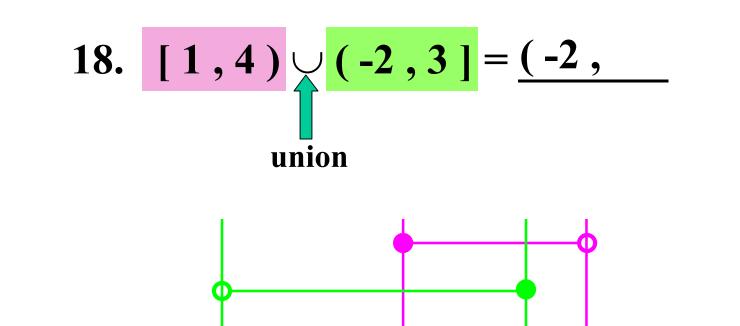
2





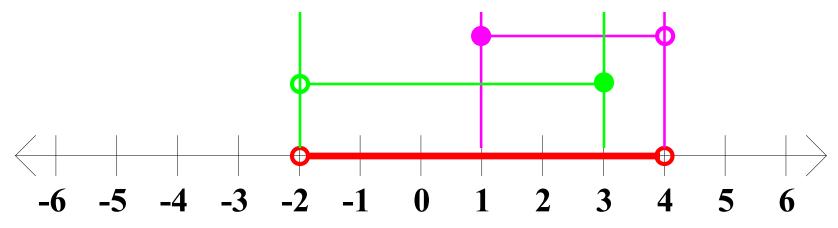
Express each of the following as a single interval.

-6 -5 -4 -3 -2 -1 0 1

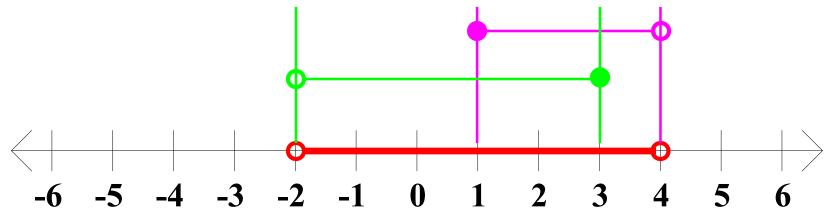


2

18.
$$[1,4) \cup (-2,3] = (-2,4)$$
 union

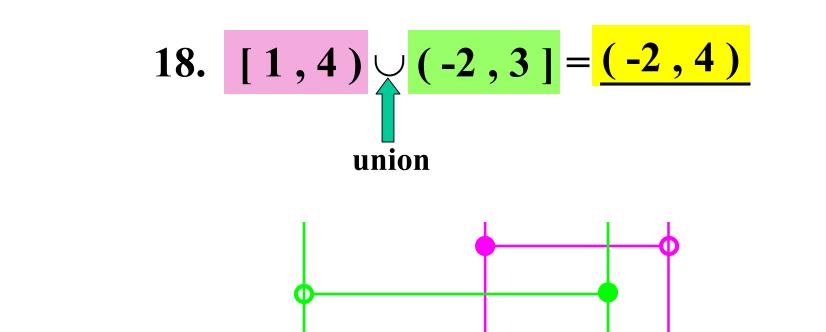


18.
$$[1,4) \cup (-2,3] = (-2,4)$$
 union



Express each of the following as a single interval.

-6 -5 -4 -3 -2 -1 0 1



2

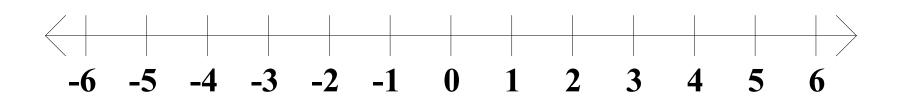
Algebra II Class Worksheet #2 Unit 1 Express each of the following as a single interval.

19.
$$(-\infty, 4) \cap [-3, \infty) =$$

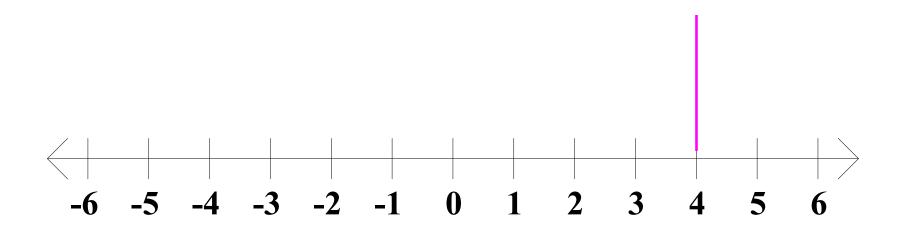
Algebra II Class Worksheet #2 Unit 1 Express each of the following as a single interval.

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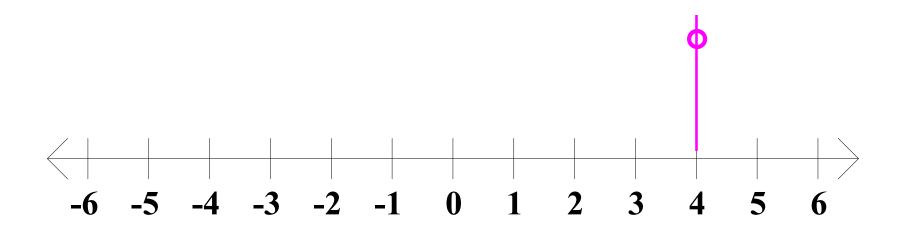
19.
$$(-\infty, 4) \cap [-3, \infty) =$$



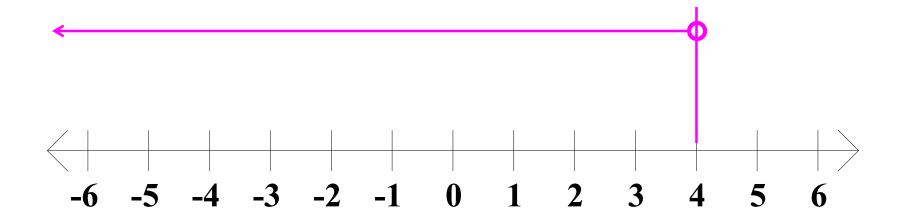
19.
$$(-\infty, 4) \cap [-3, \infty) =$$



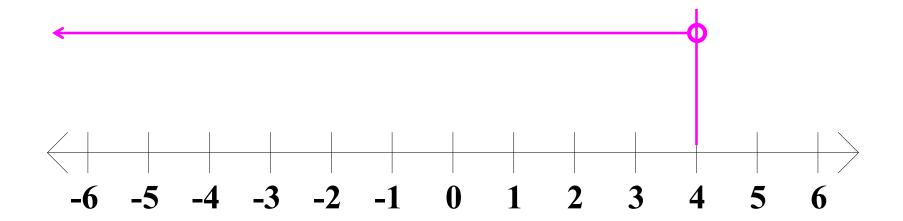
19.
$$(-\infty, 4) \cap [-3, \infty) =$$



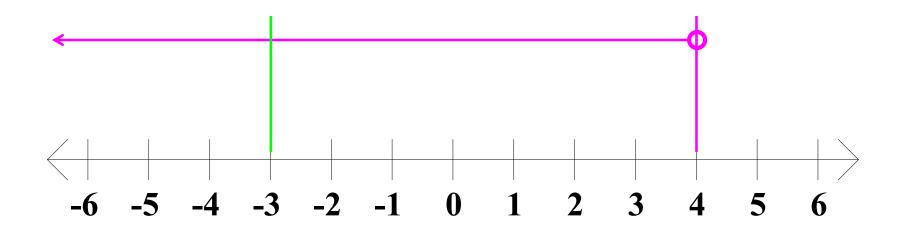
19.
$$(-\infty, 4) \cap [-3, \infty) =$$



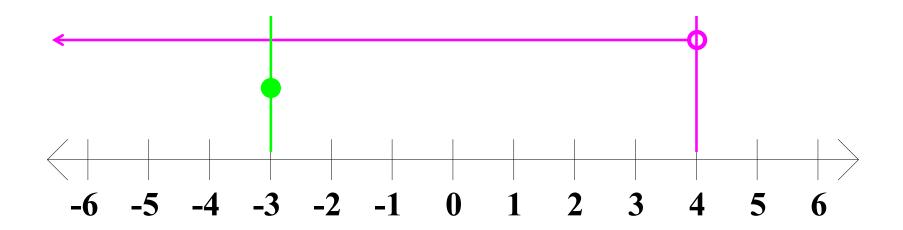
19.
$$(-\infty, 4) \cap [-3, \infty) =$$



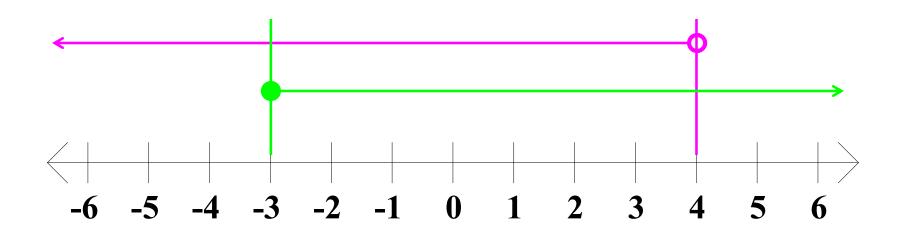
19.
$$(-\infty, 4) \cap [-3, \infty) =$$



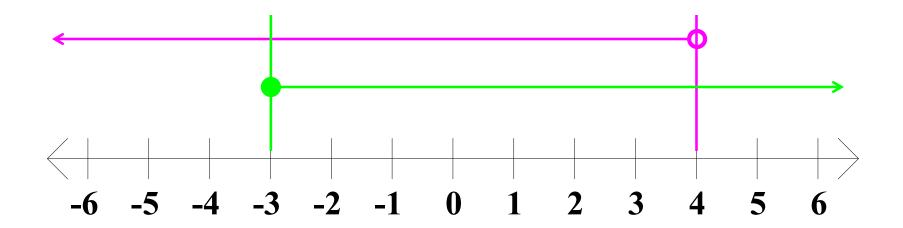
19.
$$(-\infty, 4) \cap [-3, \infty) =$$

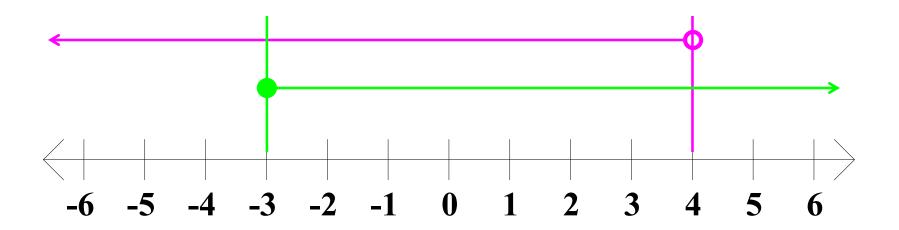


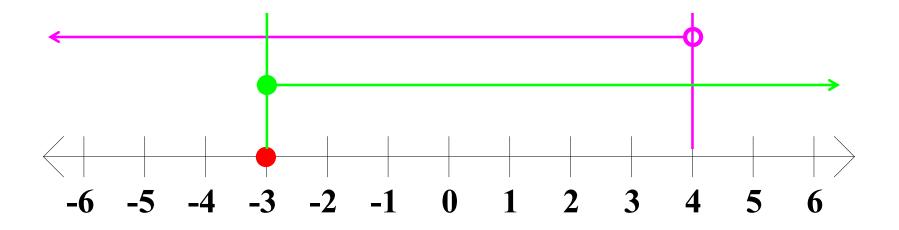
19.
$$(-\infty, 4) \cap [-3, \infty) =$$

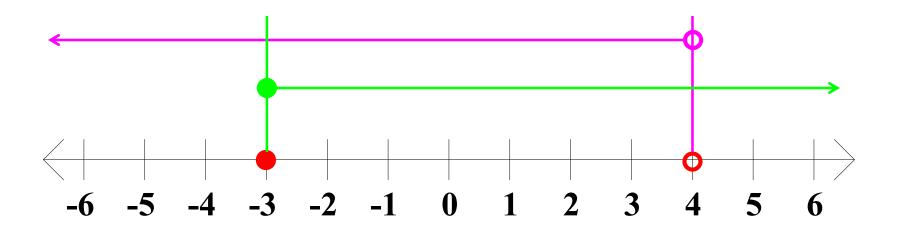


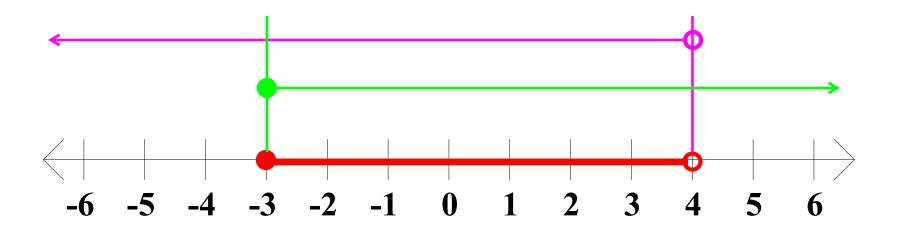
19.
$$(-\infty, 4)$$
 $=$ $[-3, \infty)$



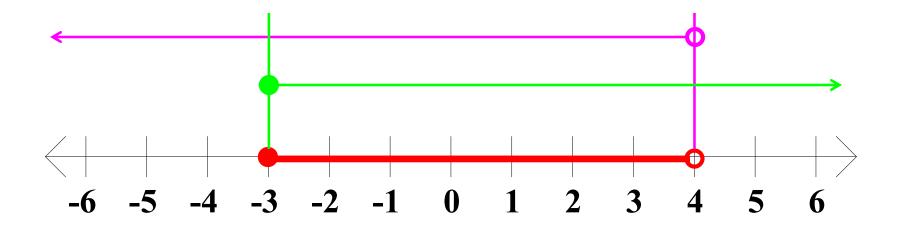




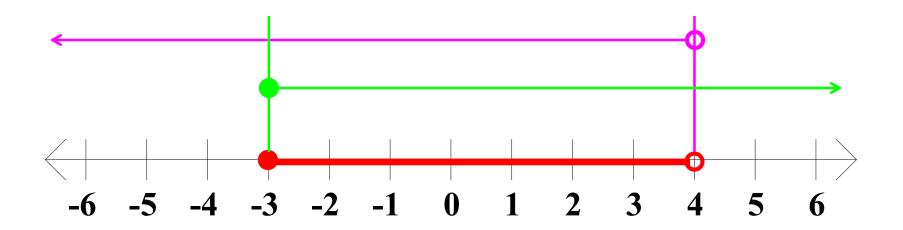




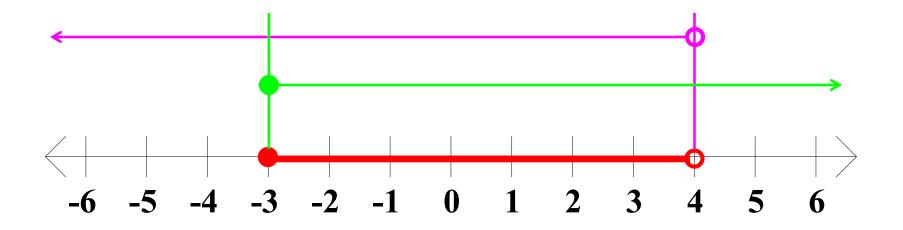
19.
$$(-\infty, 4)$$
 $[-3, \infty) = [$ intersection



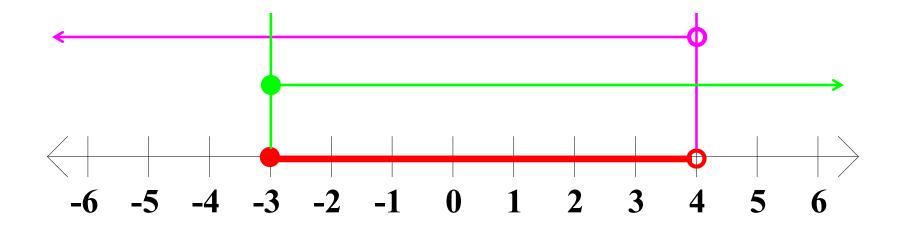
19.
$$(-\infty, 4)$$
 $(-3, \infty) = [-3]$ intersection



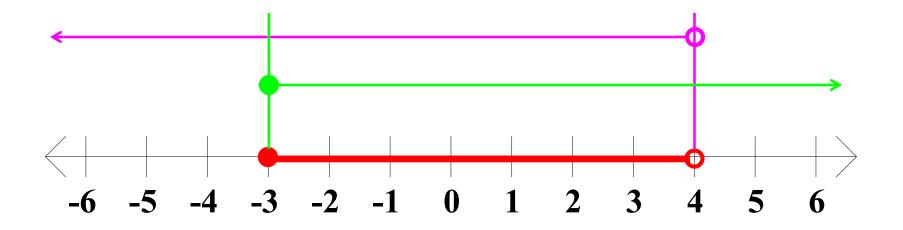
19.
$$(-\infty, 4) \cap [-3, \infty) = [-3, \infty)$$
 intersection



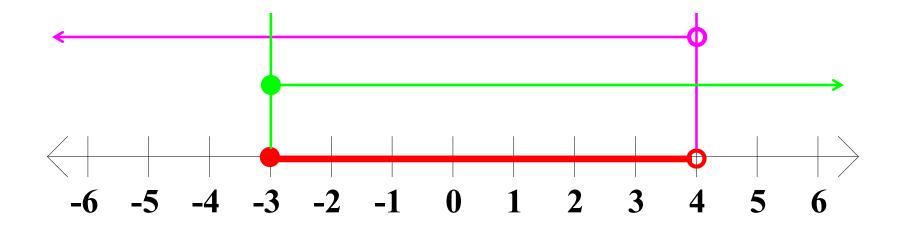
19.
$$(-\infty, 4) \cap [-3, \infty) = [-3, 4]$$
intersection



19.
$$(-\infty, 4)$$
 $(-3, \infty) = [-3, 4)$ intersection



19.
$$(-\infty, 4)$$
 $(-3, \infty) = [-3, 4)$ intersection



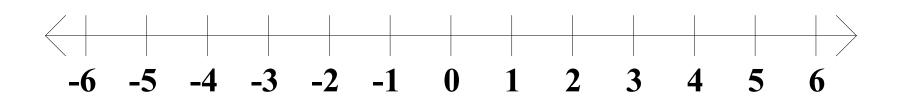
Algebra II Class Worksheet #2 Unit 1 Express each of the following as a single interval.

20.
$$(-\infty, 4) \cup [-3, \infty) =$$

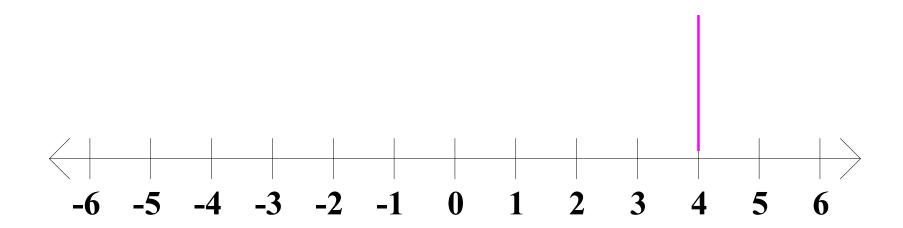
Algebra II Class Worksheet #2 Unit 1 Express each of the following as a single interval.

20.
$$(-\infty, 4) \cup [-3, \infty) =$$

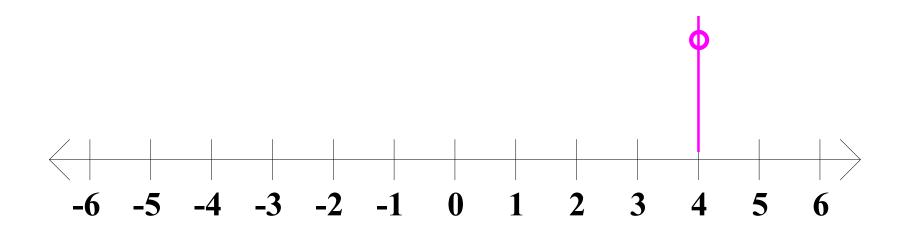
20.
$$(-\infty, 4) \cup [-3, \infty) =$$



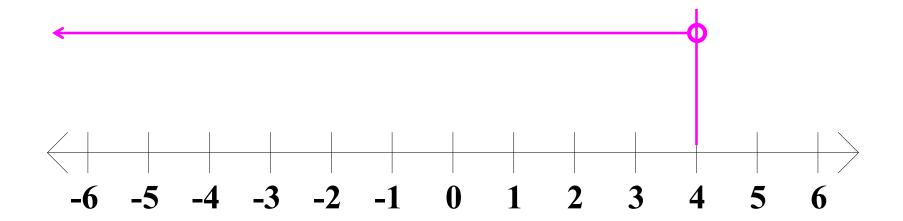
20.
$$(-\infty, 4) \cup [-3, \infty) =$$



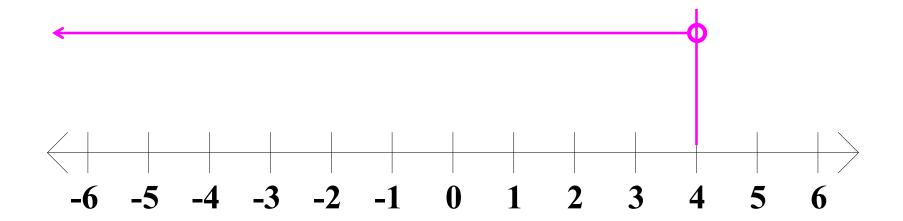
20.
$$(-\infty, 4) \cup [-3, \infty) =$$



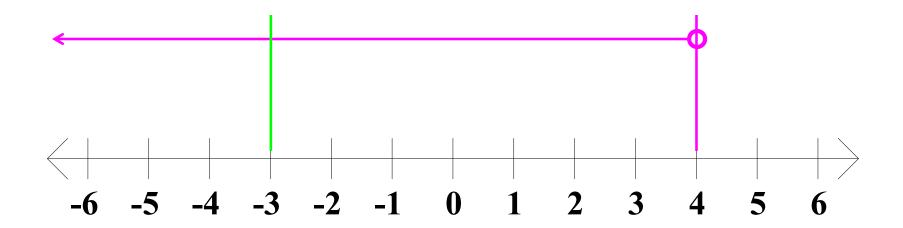
20.
$$(-\infty, 4) \cup [-3, \infty) =$$



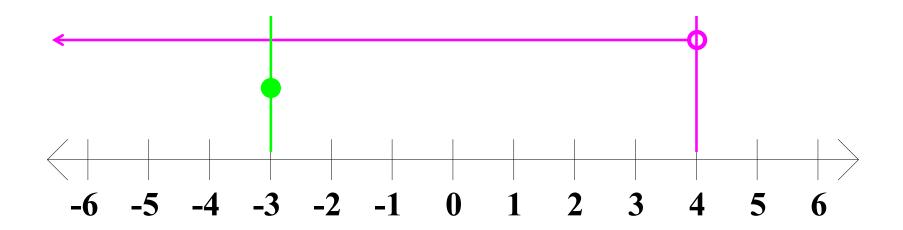
20.
$$(-\infty, 4) \cup [-3, \infty) =$$



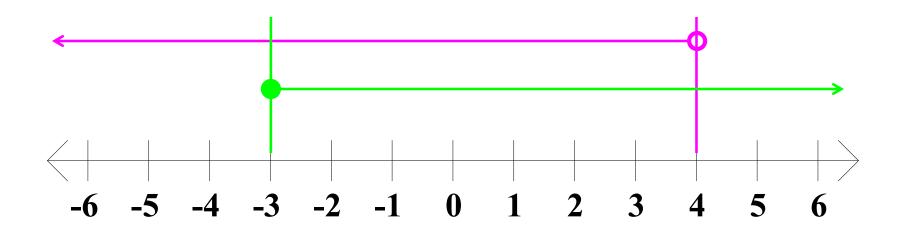
20.
$$(-\infty, 4) \cup [-3, \infty) =$$



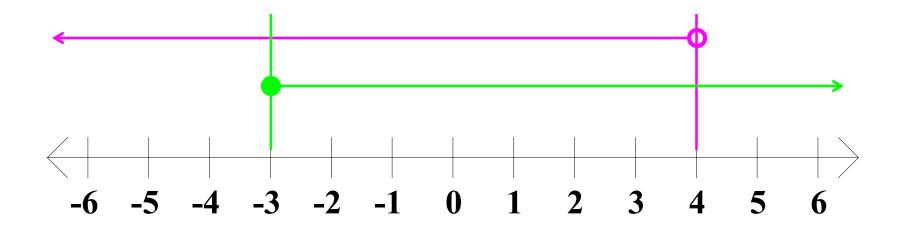
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$$(-\infty, 4) \cup [-3, \infty) =$$



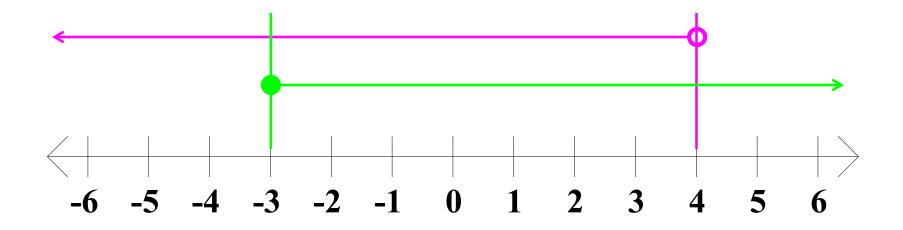
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$$(-\infty, 4) \cup [-3, \infty) =$$



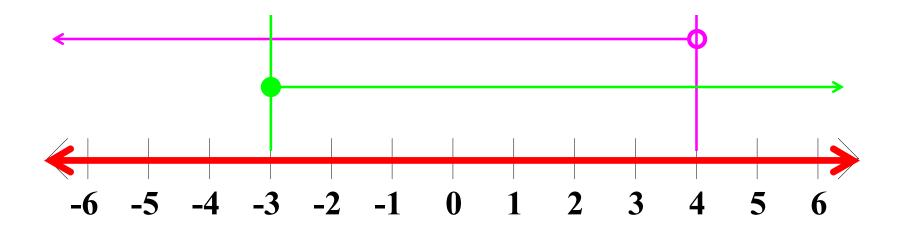
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$$(-\infty, 4)$$
 $[-3, \infty) =$

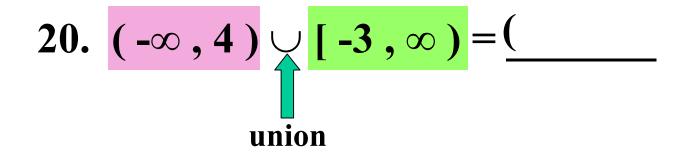


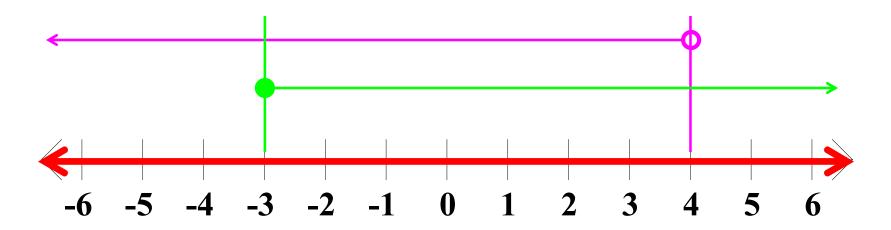
20.
$$(-\infty, 4)$$
 $(-3, \infty) =$ union

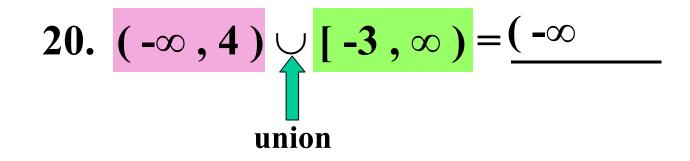


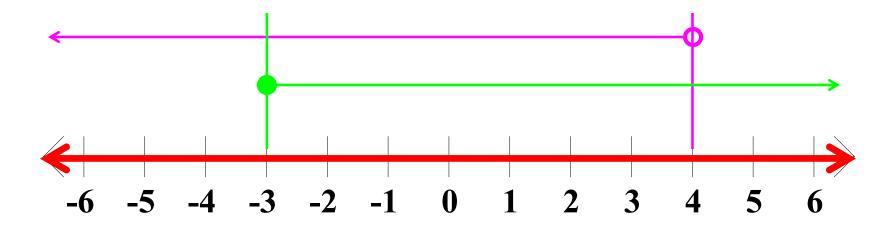
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$$(-\infty, 4)$$
 $(-3, \infty) =$ union

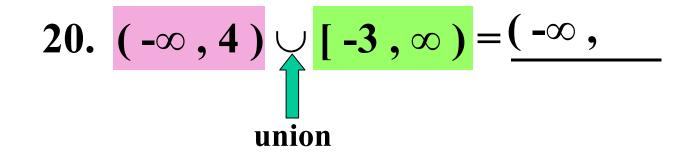


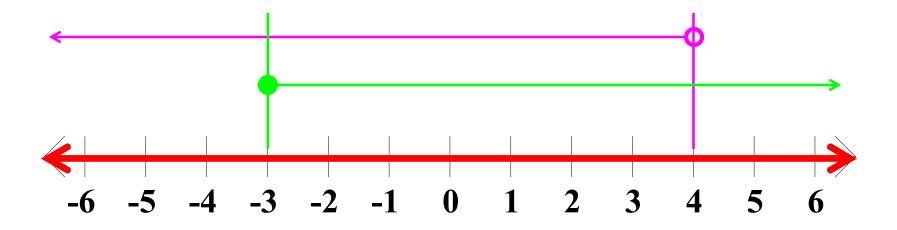




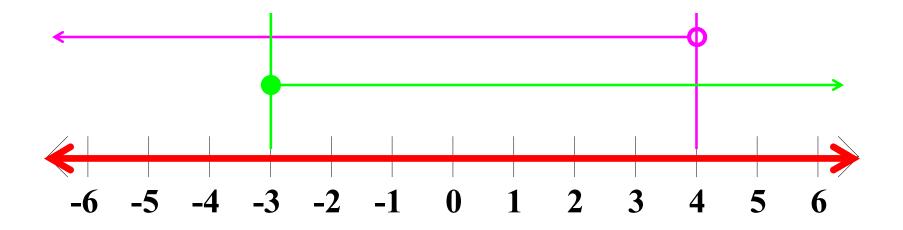




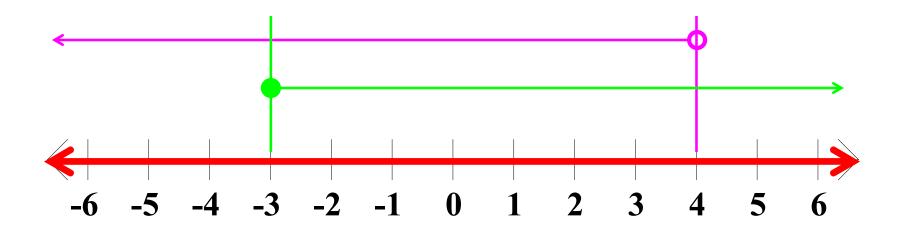


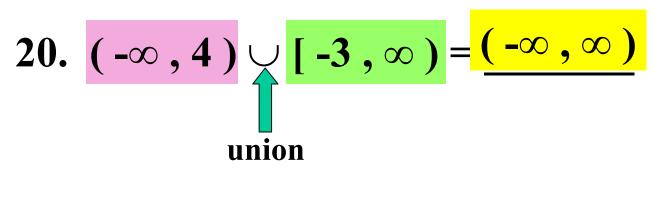


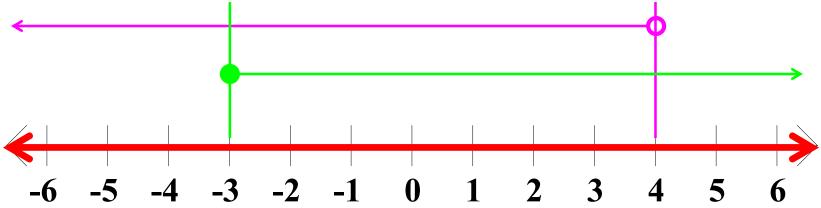
20.
$$(-\infty, 4)$$
 $(-\infty, \infty) = (-\infty, \infty)$ union



20.
$$(-\infty, 4)$$
 $(-\infty, \infty) = (-\infty, \infty)$ union







Express each of the following as a single interval.

20.
$$(-\infty, 4)$$
 $(-\infty, \infty) = (-\infty, \infty)$ union

Good luck on your homework!!

