General Algebra II Lesson #3 Unit 1 Class CWS #3

For Worksheets #5 & #6

$$1. \quad 2 \le 5x - 3 \le 12$$

$$\begin{array}{cc} 1. & 2 \leq 5x - 3 \leq 12 \\ & 5 \end{array}$$

$$\begin{array}{ll} 1. & 2 \leq 5x - 3 \leq 12 \\ & 5 \leq \end{array}$$

$$1. \quad 2 \le 5x - 3 \le 12$$
$$5 \le 5x$$

$$1. \quad 2 \le 5x - 3 \le 12$$
$$5 \le 5x \le$$

$$1. \quad 2 \le 5x - 3 \le 12$$
$$5 \le 5x \le 15$$

$$1. \quad 2 \le 5x - 3 \le 12$$
$$5 \le 5x \le 15$$
$$1$$

1.
$$2 \le 5x - 3 \le 12$$

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

1.
$$2 \le 5x - 3 \le 12$$

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

1.
$$2 \le 5x - 3 \le 12$$

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

1.
$$2 \le 5x - 3 \le 12$$

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

1.
$$2 \le 5x - 3 \le 12$$

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



1.
$$2 \le 5x - 3 \le 12$$

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



1.
$$2 \le 5x - 3 \le 12$$

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



1.
$$2 \le 5x - 3 \le 12$$

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

















$$2. \quad -3 < 4x + 9 < 15$$

2.
$$-3 < 4x + 9 < 15$$

-12

2.
$$-3 < 4x + 9 < 15$$

 $-12 <$

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

2. -3 < 4x + 9 < 15-12 < 4x

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

2. -3 < 4x + 9 < 15-12 < 4x <

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

2. -3 < 4x + 9 < 15-12 < 4x < 6

2.
$$-3 < 4x + 9 < 15$$

 $-12 < 4x < 6$
 -3

2.
$$-3 < 4x + 9 < 15$$

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

2.
$$-3 < 4x + 9 < 15$$

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

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

2. -3 < 4x + 9 < 15-12 < 4x < 6-3 < x <

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

2. -3 < 4x + 9 < 15-12 < 4x < 6-3 < x < 1.5

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

2. -3 < 4x + 9 < 15-12 < 4x < 6-3 < x < 1.5



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

2. -3 < 4x + 9 < 15-12 < 4x < 6-3 < x < 1.5


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



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



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



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

















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

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

-10

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

-10 <

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

 $-10 < 3x$

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

 $-10 < 3x \le$

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

 $-10 < 3x \le 0$

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

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

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

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

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

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

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

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

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

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

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

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



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

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



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

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



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

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



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

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



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

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

















4.
$$-6 \le 4x - 10 < 10$$
4.
$$-6 \le 4x - 10 < 10$$

$$4. \quad -6 \le 4x - 10 < 10$$
$$4 \le$$

$$4. \quad -6 \le 4x - 10 < 10$$
$$4 \le 4x$$

4.
$$-6 \le 4x - 10 < 10$$

 $4 \le 4x <$

4.
$$-6 \le 4x - 10 < 10$$

 $4 \le 4x < 20$

4.
$$-6 \le 4x - 10 < 10$$

 $4 \le 4x < 20$
1

4.
$$-6 \le 4x - 10 < 10$$

 $4 \le 4x < 20$
 $1 \le 10$

4.
$$-6 \le 4x - 10 < 10$$

 $4 \le 4x < 20$
 $1 \le x$

4.
$$-6 \le 4x - 10 < 10$$

 $4 \le 4x < 20$
 $1 \le x <$

4.
$$-6 \le 4x - 10 < 10$$

 $4 \le 4x < 20$
 $1 \le x < 5$

4.
$$-6 \le 4x - 10 < 10$$

 $4 \le 4x < 20$
 $1 \le x < 5$



4.
$$-6 \le 4x - 10 < 10$$

 $4 \le 4x < 20$
 $1 \le x < 5$



4.
$$-6 \le 4x - 10 < 10$$

 $4 \le 4x < 20$
 $1 \le x < 5$



4.
$$-6 \le 4x - 10 < 10$$

 $4 \le 4x < 20$
 $1 \le x < 5$

















5.
$$-15 \le -6x + 3 \le 27$$

5.
$$-15 \le -6x + 3 \le 27$$

-18

5.
$$-15 \leq -6x + 3 \leq 27$$

 $-18 \leq$

5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x$

5.
$$-15 \leq -6x + 3 \leq 27$$

 $-18 \leq -6x \leq$

5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x \le 24$

5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x \le 24$
3

5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x \le 24$
 $3 \ge$

5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x \le 24$
 $3 \ge x$

5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x \le 24$
 $3 \ge x \ge$

5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x \le 24$
 $3 \ge x \ge -4$

5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x \le 24$
 $3 \ge x \ge -4$
 -4

5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x \le 24$
 $3 \ge x \ge -4$
 $-4 \le$

5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x \le 24$
 $3 \ge x \ge -4$
 $-4 \le x$

5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x \le 24$
 $3 \ge x \ge -4$
 $-4 \le x \le$
5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x \le 24$
 $3 \ge x \ge -4$
 $-4 \le x \le 3$

5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x \le 24$
 $3 \ge x \ge -4$
 $-4 \le x \le 3$



5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x \le 24$
 $3 \ge x \ge -4$
 $-4 \le x \le 3$



5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x \le 24$
 $3 \ge x \ge -4$
 $-4 \le x \le 3$



5.
$$-15 \le -6x + 3 \le 27$$

 $-18 \le -6x \le 24$
 $3 \ge x \ge -4$
 $-4 \le x \le 3$

















6.
$$-12 < -2x - 3 < 4$$

5.
$$-12 < -2x - 3 < 4$$

-9

$$\begin{array}{l} \textbf{6.} \quad -12 < -2x - 3 < 4 \\ \textbf{-9} < \end{array}$$

6.
$$-12 < -2x - 3 < 4$$

 $-9 < -2x$

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

6. -12 < -2x - 3 < 4-9 < -2x <

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

6. -12 < -2x - 3 < 4-9 < -2x < 7

6.
$$-12 < -2x - 3 < 4$$

 $-9 < -2x < 7$
 $\frac{9}{2}$

6.
$$-12 < -2x - 3 < 4$$

 $-9 < -2x < 7$
 $\frac{9}{2} >$

6.
$$-12 < -2x - 3 < 4$$

 $-9 < -2x < 7$
 $\frac{9}{2} > x$

5.
$$-12 < -2x - 3 < 4$$

 $-9 < -2x < 7$
 $\frac{9}{2} > x >$

6.
$$-12 < -2x - 3 < 4$$

 $-9 < -2x < 7$
 $\frac{9}{2} > x > \frac{-7}{2}$

6.
$$-12 < -2x - 3 < 4$$

 $-9 < -2x < 7$
 $\frac{9}{2} > x > \frac{-7}{2}$
 $\frac{-7}{2}$

6.
$$-12 < -2x - 3 < 4$$

 $-9 < -2x < 7$
 $\frac{9}{2} > x > \frac{-7}{2}$
 $\frac{-7}{2} <$

6.
$$-12 < -2x - 3 < 4$$

 $-9 < -2x < 7$
 $\frac{9}{2} > x > \frac{-7}{2}$
 $\frac{-7}{2} < x$

6.
$$-12 < -2x - 3 < 4$$

 $-9 < -2x < 7$
 $\frac{9}{2} > x > \frac{-7}{2}$
 $\frac{-7}{2} < x <$

6.
$$-12 < -2x - 3 < 4$$

 $-9 < -2x < 7$
 $\frac{9}{2} > x > \frac{-7}{2}$
 $\frac{-7}{2} < x < \frac{9}{2}$














































<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>.

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

7.

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

7. 3x + 5 < 11

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

7. 3x + 5 < 11 and

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

7. 3x + 5 < 11 and 2x + 3 > -3

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

```
Type 1 <u>and</u> :
```

```
7. 3x + 5 < 11 and 2x + 3 > -3
8.
```

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

7. 3x + 5 < 11 and 2x + 3 > -3

$$8. \quad -2x-3 \ge 5$$

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

- 7. 3x + 5 < 11 and 2x + 3 > -3
- 8. $-2x 3 \ge 5$ and

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

- 7. 3x + 5 < 11 and 2x + 3 > -3
- 8. $-2x 3 \ge 5$ and $4x + 6 \le 14$

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

7. 3x + 5 < 11 and 2x + 3 > -3

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

- 7. 3x + 5 < 11 and 2x + 3 > -3
- 8. $-2x 3 \ge 5$ and $4x + 6 \le 14$
- 9. x 1 > 3

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

- 7. 3x + 5 < 11 and 2x + 3 > -3
- 8. $-2x 3 \ge 5$ and $4x + 6 \le 14$
- 9. x 1 > 3 and

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

- 7. 3x + 5 < 11 and 2x + 3 > -3
- 8. $-2x 3 \ge 5$ and $4x + 6 \le 14$
- 9. x 1 > 3 and -2x 5 > 1

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

- 7. 3x + 5 < 11 and 2x + 3 > -3
- 8. $-2x 3 \ge 5$ and $4x + 6 \le 14$
- 9. x 1 > 3 and -2x 5 > 1

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

- 7. 3x + 5 < 11 and 2x + 3 > -3
- 8. $-2x 3 \ge 5$ and $4x + 6 \le 14$
- 9. x 1 > 3 and -2x 5 > 1

Type 2 <u>or</u> :

10.

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

- 7. 3x + 5 < 11 and 2x + 3 > -3
- 8. $-2x 3 \ge 5$ and $4x + 6 \le 14$
- 9. x 1 > 3 and -2x 5 > 1
- **Type 2** <u>or</u> :
 - 10. $2x + 7 \ge 1$

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

- 7. 3x + 5 < 11 and 2x + 3 > -3
- 8. $-2x 3 \ge 5$ and $4x + 6 \le 14$
- 9. x 1 > 3 and -2x 5 > 1

Type 2 <u>or</u> :

10. $2x + 7 \ge 1$ or

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

7. 3x + 5 < 11 and 2x + 3 > -3

- 8. $-2x 3 \ge 5$ and $4x + 6 \le 14$
- 9. x 1 > 3 and -2x 5 > 1

Type 2 <u>or</u> :

10. $2x + 7 \ge 1$ or $3x - 2 \ge 10$

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

7. 3x + 5 < 11 and 2x + 3 > -3

- 8. $-2x 3 \ge 5$ and $4x + 6 \le 14$
- 9. x 1 > 3 and -2x 5 > 1

Type 2 <u>or</u> :

10. $2x + 7 \ge 1$ or $3x - 2 \ge 10$ 11.

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

7. 3x + 5 < 11 and 2x + 3 > -3

- 8. $-2x 3 \ge 5$ and $4x + 6 \le 14$
- 9. x 1 > 3 and -2x 5 > 1

Type 2 <u>or</u> :

10. $2x + 7 \ge 1$ or $3x - 2 \ge 10$ 11. -5x + 11 < 1

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

7. 3x + 5 < 11 and 2x + 3 > -3

- 8. $-2x 3 \ge 5$ and $4x + 6 \le 14$
- 9. x 1 > 3 and -2x 5 > 1

Type 2 <u>or</u> :

10. $2x + 7 \ge 1$ or $3x - 2 \ge 10$ 11. -5x + 11 < 1 or

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

- 7. 3x + 5 < 11 and 2x + 3 > -3
- 8. $-2x 3 \ge 5$ and $4x + 6 \le 14$
- 9. x 1 > 3 and -2x 5 > 1

- 10. $2x + 7 \ge 1$ or $3x 2 \ge 10$
- 11. -5x + 11 < 1 or x + 5 < 1

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$

9. x - 1 > 3 and -2x - 5 > 1

Type 2 <u>or</u> :

- 10. $2x + 7 \ge 1$ or $3x 2 \ge 10$
- 11. -5x + 11 < 1 or x + 5 < 1

12.

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$

9. x - 1 > 3 and -2x - 5 > 1

- 10. $2x + 7 \ge 1$ or $3x 2 \ge 10$
- 11. -5x + 11 < 1 or x + 5 < 1
- 12. $3x + 4 \ge 1$

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$

9. x - 1 > 3 and -2x - 5 > 1

- 10. $2x + 7 \ge 1$ or $3x 2 \ge 10$
- 11. -5x + 11 < 1 or x + 5 < 1
- 12. $3x + 4 \ge 1$ or

<u>Compound inequalities</u> are formed when two basic inequalities are 'joined' using the 'connective' <u>and</u> or the 'connective' <u>or</u>. Here are some examples.

Type 1 <u>and</u> :

- 7. 3x + 5 < 11 and 2x + 3 > -3
- 8. $-2x 3 \ge 5$ and $4x + 6 \le 14$
- 9. x 1 > 3 and -2x 5 > 1

- 10. $2x + 7 \ge 1$ or $3x 2 \ge 10$
- 11. -5x + 11 < 1 or x + 5 < 1
- 12. $3x + 4 \ge 1$ or -4x + 10 > 2
Algebra IIClass Worksheet #3Unit 4Solving Compound Inequalities-Type 1and

Algebra II Class Worksheet #3 Unit 4 Solving Compound Inequalities - Type 1 <u>and</u>

Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

7. 3x + 5 < 11 and 2x + 3 > -3

Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

7. 3x + 5 < 11 and 2x + 3 > -3

Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

7. 3x + 5 < 11 and 2x + 3 > -33x

Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

7. 3x + 5 < 11 and 2x + 3 > -33x <

Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

7. 3x + 5 < 11 and 2x + 3 > -33x < 6

```
7. 3x + 5 < 11 and 2x + 3 > -3
3x < 6
x
```

```
7. 3x + 5 < 11 and 2x + 3 > -3
3x < 6
x <
```

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$
 $x < 2$

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x$
 $x < 2$

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x >$
 $x < 2$

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ x

Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

7. 3x + 5 < 11 and 2x + 3 > -33x < 6 2x > -6x < 2 x >

Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

7. 3x + 5 < 11 and 2x + 3 > -3 3x < 6 2x > -6x < 2 x > -3

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ and $x > -3$

Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

7. 3x + 5 < 11 and 2x + 3 > -3 3x < 6 2x > -6x < 2 and x > -3

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ and $x > -3$



Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

7. 3x + 5 < 11 and 2x + 3 > -3 3x < 6 2x > -6x < 2 and x > -3

























7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ and $x > -3$



7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ and $x > -3$



7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ and $x > -3$
 -3
 $-6 -5 -4 -3 -2 -1 = 0 = 1 = 2 = 3 = 4 = 5 = 6$

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ and $x > -3$
 $-3 <$



7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ and $x > -3$
 $-3 < x$



> 7. 3x + 5 < 11 and 2x + 3 > -3 3x < 6 2x > -6 x < 2 and x > -3-3 < x <


> 7. 3x + 5 < 11 and 2x + 3 > -3 3x < 6 x < 2 and x > -6-3 < x < 2



7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ and $x > -3$
 $-3 < x < 2$



7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ and $x > -3$
 $-3 < x < 2$



7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ and $x > -3$
 $-3 < x < 2$
 $S =$
 $-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6$

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ and $x > -3$
 $-3 < x < 2$
 $S = ($
 $-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6$

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ and $x > -3$
 $-3 < x < 2$
 $S = (-3)$
 $-6 -5 -4 -3 -2 -1 = 0 = 1 = 2 = 3 = 4 = 5 = 6$

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ and $x > -3$
 $-3 < x < 2$
 $S = (-3, -6)$
 $-6 -5 -4 -3 -2 -1 = 0 = 1 = 2 = 3 = 4 = 5 = 6$

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ and $x > -3$
 $-3 < x < 2$
 $S = (-3, 2)$
 $-6 -5 -4 -3 -2 -1 = 0 = 1 = 2 = 3 = 4 = 5 = 6$

7.
$$3x + 5 < 11$$
 and $2x + 3 > -3$
 $3x < 6$ $2x > -6$
 $x < 2$ and $x > -3$
 $-3 < x < 2$
 $S = (-3, 2)$
 $-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6$



Algebra II Class Worksheet #3 Unit 4 Solving Compound Inequalities - Type 1 <u>and</u>

Step 1: Solve each basic inequality.

Step 2: The solution set of the compound inequality is the **'intersection'** of the solution sets of the basic inequalities.

Step 3: Express the final solution in simplest form. Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

8. $-2x - 3 \ge 5$ and $4x + 6 \le 14$

Step 2: The solution set of the compound inequality is the '<u>intersection</u>' of the solution sets of the basic inequalities.

Step 3: Express the final solution in simplest form. Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

8. $-2x - 3 \ge 5$ and $4x + 6 \le 14$

Step 2: The solution set of the compound inequality is the **'intersection'** of the solution sets of the basic inequalities.

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
-2x

Step 2: The solution set of the compound inequality is the **'**<u>intersection</u>' of the solution sets of the basic inequalities.

Step 3: Express the final solution in simplest form. Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

> 8. $-2x - 3 \ge 5$ and $4x + 6 \le 14$ $-2x \ge$

Step 2: The solution set of the compound inequality is the **'intersection'** of the solution sets of the basic inequalities.

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$

Step 2: The solution set of the compound inequality is the **'intersection'** of the solution sets of the basic inequalities.

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$

Step 2: The solution set of the compound inequality is the **'intersection'** of the solution sets of the basic inequalities.

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$
 $x \le$

Step 2: The solution set of the compound inequality is the **'intersection'** of the solution sets of the basic inequalities.

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$
 $x \le -4$

Step 2: The solution set of the compound inequality is the **'intersection'** of the solution sets of the basic inequalities.

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$ $4x$
 $x \le -4$

Step 2: The solution set of the compound inequality is the **'intersection'** of the solution sets of the basic inequalities.

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$ $4x \le 14$
 $x \le -4$

Step 2: The solution set of the compound inequality is the '<u>intersection</u>' of the solution sets of the basic inequalities.

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$ $4x \le 8$
 $x \le -4$

Step 2: The solution set of the compound inequality is the '<u>intersection</u>' of the solution sets of the basic inequalities.

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$ $4x \le 8$
 $x \le -4$ x

Step 2: The solution set of the compound inequality is the '<u>intersection</u>' of the solution sets of the basic inequalities.

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$ $4x \le 8$
 $x \le -4$ $x \le 14$

Step 2: The solution set of the compound inequality is the '<u>intersection</u>' of the solution sets of the basic inequalities.

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$ $4x \le 8$
 $x \le -4$ $x \le 2$

Step 2: The solution set of the compound inequality is the '<u>intersection</u>' of the solution sets of the basic inequalities.

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$ $4x \le 8$
 $x \le -4$ $x \le 2$

Step 2: The solution set of the compound inequality is the **'<u>intersection</u>'** of the solution sets of the basic inequalities.

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$ $4x \le 8$
 $x \le -4$ and $x \le 2$

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$ $4x \le 8$
 $x \le -4$ and $x \le 2$

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$ $4x \le 8$
 $x \le -4$ and $x \le 2$

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$ $4x \le 8$
 $x \le -4$ and $x \le 2$







8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$ $4x \le 8$
 $x \le -4$ and $x \le 2$
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6












8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$ $4x \le 8$
 $x \le -4$ and $x \le 2$



8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$ $4x \le 8$
 $x < -4$ and $x \le 2$



8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$
 $x \le -4$ and $x \le 2$
 x
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$
 $x \le -4$ and $x \le 2$
 $x \le x \le 14$



8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$
 $x \le -4$ and $x \le 2$
 $x \le -4$



8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$
 $x \le -4$ and $x \le 2$
 $x \le -4$
 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$
 $x \le -4$ and $x \le 2$
 $x \le -4$



8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$
 $x \le -4$ and $x \le 2$
 $x \le -4$
 $S =$
 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$
 $x \le -4$ and $x \le 2$
 $x \le -4$
 $S = ($
 $-6 -5 -4 -3 -2 -1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6$

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$
 $x \le -4$ and $x \le 2$
 $x \le -4$
 $S = (-\infty)$
 $-6 -5 -4 -3 -2 -1 \ 0 \ 1 \ 2 \ 3 \ 4 \ 5 \ 6$

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$
 $x \le -4$ and $x \le 2$
 $x \le -4$
 $S = (-\infty, -6)$
 $-6 -5 -4 -3 -2 -1 = 0$
 $x \le -4$
 $S = (-\infty, -6)$
 $-6 -5 -4 -3 -2 -1 = 0$
 $x \le -4$
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 $-3 = 2$
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8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$
 $x \le -4$ and $x \le 2$
 $x \le -4$
 $S = (-\infty, -4)$
 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

8.
$$-2x - 3 \ge 5$$
 and $4x + 6 \le 14$
 $-2x \ge 8$
 $x \le -4$ and $x \le 2$
 $x \le -4$
 $S = (-\infty, -4]$
 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6



Algebra II Class Worksheet #3 Unit 4 Solving Compound Inequalities - Type 1 <u>and</u>

Step 1: Solve each basic inequality.

Step 2: The solution set of the compound inequality is the **'intersection'** of the solution sets of the basic inequalities.

Step 3: Express the final solution in simplest form. Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

9. x - 1 > 3 and -2x - 5 > 1

Step 2: The solution set of the compound inequality is the **'intersection'** of the solution sets of the basic inequalities.

Step 3: Express the final solution in simplest form. Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

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9. x - 1 > 3 and -2x - 5 > 1

X

Step 2: The solution set of the compound inequality is the '<u>intersection</u>' of the solution sets of the basic inequalities.

Step 3: Express the final solution in simplest form. Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$

x >

Step 2: The solution set of the compound inequality is the '<u>intersection</u>' of the solution sets of the basic inequalities.

Step 3: Express the final solution in simplest form. Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$

x > 4

Step 2: The solution set of the compound inequality is the **'intersection'** of the solution sets of the basic inequalities.

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
-2x
 $x > 4$

Step 2: The solution set of the compound inequality is the **'intersection'** of the solution sets of the basic inequalities.

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x >$
 $x > 4$

Step 2: The solution set of the compound inequality is the **'intersection'** of the solution sets of the basic inequalities.

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$

Step 2: The solution set of the compound inequality is the '<u>intersection</u>' of the solution sets of the basic inequalities.

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ x

Step 2: The solution set of the compound inequality is the '<u>intersection</u>' of the solution sets of the basic inequalities.

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ $x <$

Step 2: The solution set of the compound inequality is the '<u>intersection</u>' of the solution sets of the basic inequalities.

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ $x < -3$

Step 2: The solution set of the compound inequality is the **'**<u>intersection</u>' of the solution sets of the basic inequalities.

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ $x < -3$

Step 2: The solution set of the compound inequality is the **'**<u>intersection</u>' of the solution sets of the basic inequalities.

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$



9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$



9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6
9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$

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

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$

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

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$
These sets do not intersect !!
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$

These sets do not intersect !!
 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$

These sets do not intersect !!
 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$
no solution
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$
no solution
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$
no solution
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$
no solution
 $S =$
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$
no solution
 $S = \emptyset$
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

9.
$$x - 1 > 3$$
 and $-2x - 5 > 1$
 $-2x > 6$
 $x > 4$ and $x < -3$
no solution
 $S = \emptyset$
-6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6

Algebra II Class Worksheet #3 Unit 4 Solving Compound Inequalities - Type 2 <u>or</u>

Algebra IIClass Worksheet #3Unit 4Solving Compound Inequalities-Type 2or

Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

10. $2x + 7 \ge 1$ or $3x - 2 \ge 10$

Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

10. $2x + 7 \ge 1$ or $3x - 2 \ge 10$

10.
$$2x + 7 \ge 1$$
 or $3x - 2 \ge 10$
 $2x$

10.
$$2x + 7 \ge 1$$
 or $3x - 2 \ge 10$
 $2x \ge$

10.
$$2x + 7 \ge 1$$
 or $3x - 2 \ge 10$
 $2x \ge -6$

10.
$$2x + 7 \ge 1$$
 or $3x - 2 \ge 10$
 $2x \ge -6$

10.
$$2x + 7 \ge 1$$
 or $3x - 2 \ge 10$
 $2x \ge -6$
 $x \ge$

10.
$$2x + 7 \ge 1$$
 or $3x - 2 \ge 10$
 $2x \ge -6$
 $x \ge -3$

10.
$$2x + 7 \ge 1$$
 or $3x - 2 \ge 10$
 $2x \ge -6$ $3x$
 $x \ge -3$

10.
$$2x + 7 \ge 1$$
 or $3x - 2 \ge 10$
 $2x \ge -6$ $3x \ge$
 $x \ge -3$

10.
$$2x + 7 \ge 1$$
 or $3x - 2 \ge 10$
 $2x \ge -6$ $3x \ge 12$
 $x \ge -3$

10.
$$2x + 7 \ge 1$$
 or $3x - 2 \ge 10$
 $2x \ge -6$ $3x \ge 12$
 $x \ge -3$ x

10.
$$2x + 7 \ge 1$$
 or $3x - 2 \ge 10$
 $2x \ge -6$
 $3x \ge 12$
 $x \ge -3$
 $x \ge$

10.
$$2x + 7 \ge 1$$
 or $3x - 2 \ge 10$
 $2x \ge -6$ $3x \ge 12$
 $x \ge -3$ $x \ge 4$

10.
$$2x + 7 \ge 1$$
 or $3x - 2 \ge 10$
 $2x \ge -6$ $3x \ge 12$
 $x \ge -3$ or $x \ge 4$

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Step 3: Express the final solution in simplest form.

Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

11. -5x + 11 < 1 or x + 5 < 1

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11.
$$-5x + 11 < 1$$
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> 11. -5x + 11 < 1 or x + 5 < 1-5x < -10x > 2 or x < -4

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Algebra II Class Worksheet #3 Unit 4 Solving Compound Inequalities - Type 2 <u>or</u> Step 1: Solve each basic inequality. Step 2: The solution set of the compound inequality is the '<u>union</u>' of the solution sets of the basic inequalities. <u>Step 3: Express the final solution in simplest form.</u> Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

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Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

12. $3x + 4 \ge 1$ or -4x + 10 > 2 $3x \ge -3$ -4x > -8 $x \ge -1$

Solving Compound Inequalities - Type 2 or

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Algebra II Class Worksheet #3 Unit 4 Solving Compound Inequalities - Type 2 <u>or</u> Step 1: Solve each basic inequality. Step 2: The solution set of the compound inequality is the '<u>union</u>' of the solution sets of the basic inequalities. Step 3: Express the final solution in simplest form. Solve each of the following for x. Represent the solution set as an interval or the union of intervals and sketch its graph.

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