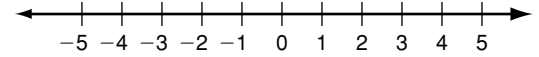


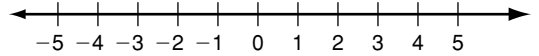
LESSON **2-8** **Practice A**
Solving Absolute-Value Equations and Inequalities

Solve each compound inequality. Then graph the solution.

1. $2x < 8$ and $x + 3 > 3$



2. $x - 13 \geq -15$ or $4x < -12$



Solve each equation.

3. $|3x| = 36$

4. $|x| - 7 = -1$

$3x = \underline{\hspace{1cm}}$ or $3x = \underline{\hspace{1cm}}$

$x = \underline{\hspace{1cm}}$ or $x = \underline{\hspace{1cm}}$ _____

Is each inequality a conjunction or a disjunction?
 Do you use *and* or *or*?

5. $|4x| + 10 > 30$
 Either $4x + 10 > 30$,
 or $-4x + 10 > 30$,
 or both are true.

6. $|5x + 11| < 21$
 Both $5x + 11 < 21$
 and $-5x - 11 < 21$
 are true.

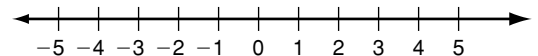
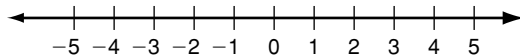
conjunction:
 joined by *and*. Both are true.

disjunction:
 joined by *or*. At least one is true.

Solve each inequality. Then graph the solution.

7. $\frac{|3x - 1|}{2} \leq 3$

8. $5|2x| > 10$



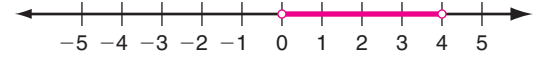
9. Phil told his friend that if you subtract 12 from his age and then take the absolute value, you'll get an answer of 3. How old is Phil?

LESSON **2-8** **Practice A**
Solving Absolute-Value Equations and Inequalities

Solve each compound inequality. Then graph the solution.

1. $2x < 8$ and $x + 3 > 3$

$x < 4$ and $x > 0$



2. $x - 13 \geq -15$ or $4x < -12$

$x \geq -2$ or $x < -3$



Solve each equation.

3. $|3x| = 36$

$3x = 36$ or $3x = -36$

$x = 12$ or $x = -12$

4. $|x| - 7 = -1$

$x = 6$ or $x = -6$

Is each inequality a conjunction or a disjunction?
 Do you use *and* or *or*?

5. $|4x| + 10 > 30$

Either $4x + 10 > 30$,
 or $-4x + 10 > 30$,
 or both are true.

6. $|5x + 11| < 21$

Both $5x + 11 < 21$
 and $-5x - 11 < 21$
 are true.

conjunction:
 joined by *and*. Both are true.

disjunction:
 joined by *or*. At least one is true.

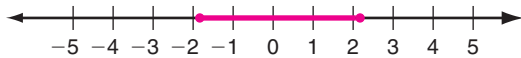
Disjunction, or

Conjunction, and

Solve each inequality. Then graph the solution.

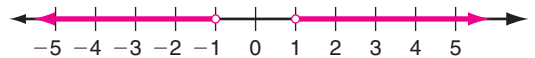
7. $\frac{|3x - 1|}{2} \leq 3$

$-\frac{5}{3} \leq x \leq \frac{7}{3}$



8. $5|2x| > 10$

$x < -1$ or $x > 1$



9. Phil told his friend that if you subtract 12 from his age and then take the absolute value, you'll get an answer of 3. How old is Phil?

9 or 15