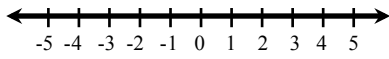


2.6 Solving Inequalities

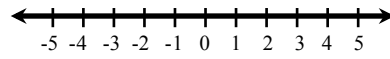
Name \_\_\_\_\_

Solve each inequality. Graph the solution set.

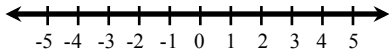
1.  $x + 3 < 7$



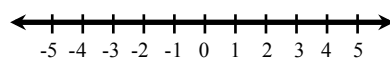
2.  $x - 2 < 1$



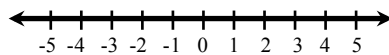
3.  $3x \geq -6$



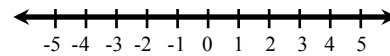
4.  $5x > -15$



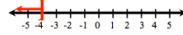


5.  $-3x + 5 \geq 17$



6.  $-2x - 3 > -11$



Answers: 1.  ; 3.  ; 5. 

Write an equivalent inequality with $x$ on the left side.	
<b>7.</b> $2 < x$	<b>8.</b> $-3 > x$
Solve each inequality. Write the solution set in interval notation.	
<b>9.</b> $x - 1.9 < -4.6$	<b>10.</b> $x + 2.4 < -6.5$
<b>11.</b> $-3 \leq -x - 8$	<b>12.</b> $11 \leq -4x + 2$
<b>13.</b> $\frac{1}{4}x > \frac{3}{8}$	<b>14.</b> $\frac{2}{3}x \geq \frac{3}{5}$
Answers: <b>7.</b> $x > 2$ ; <b>9.</b> $(-\infty, -2.7)$ ; <b>11.</b> $(-\infty, -5]$ ; <b>13.</b> $\left(\frac{3}{2}, \infty\right)$	

Solve each inequality.

15.  $3x+7 > 7x-5$

16.  $7x-3 \geq 5x-8$

17.  $-3+2x+4 \leq 7$

18.  $-3x-5+x \geq 3$

19.  $-3(2x+1) \leq 9$

20.  $-2(3x-2) > -14$

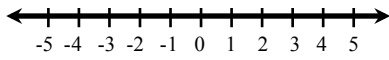
21.  $\frac{1}{8}x - \frac{3}{4} \leq -\frac{1}{2}$

22.  $\frac{1}{2}x - \frac{2}{3} > \frac{5}{6}x - 1$

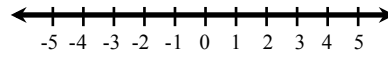
Answers: 15.  $x < 3$ ; 17.  $x \leq 3$ ; 19.  $x \geq -2$ ; 21.  $x \leq 2$

Solve each inequality. Graph the solution set.

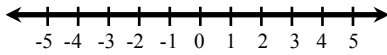
23.  $-6 < 2x < 4$



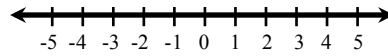
24.  $-3 < 3x < 9$



25.  $-3 \leq 2x + 1 \leq 9$



26.  $-5 < 2x + 3 \leq 7$



Answers: 23.



25.

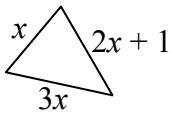


Write and solve an inequality that represents each problem.

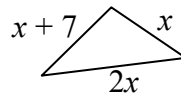
**27.** The sum of six and three times a number is greater than fifteen.

**28.** The sum of five and twice a number is greater than negative eleven.

**29.** The perimeter of the triangle below must be greater than or equal to 55 inches. Find the solution set for  $x$ .



**30.** The perimeter of the triangle below must be less than 25 inches. Find the solution set for  $x$ .



Answers: **27.**  $x > 3$ ; **29.**  $x \geq 9$