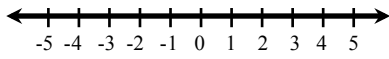


2.6 Solving Inequalities

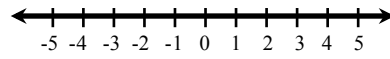
Name _____

Solve each inequality. Graph the solution set.

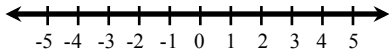
1. $x + 3 < 7$



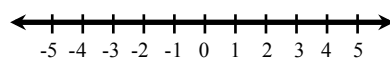
2. $x - 2 < 1$



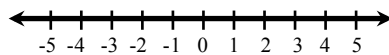
3. $3x \geq -6$



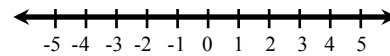
4. $5x > -15$



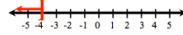


5. $-3x + 5 \geq 17$



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



Answers: 1.  ; 3.  ; 5. 

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

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

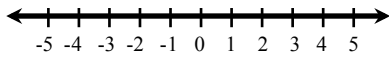
21. $\frac{1}{8}x - \frac{3}{4} \leq -\frac{1}{2}$

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

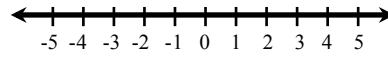
Answers: 15. $x < 3$; 17. $x \leq 3$; 19. $x \geq -2$; 21. $x \leq 2$

Solve each inequality. Graph the solution set.

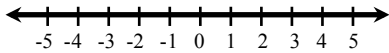
23. $-6 < 2x < 4$



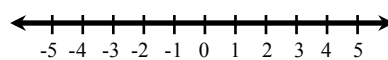
24. $-3 < 3x < 9$



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



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



Answers: 23.



25.

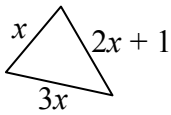


Write and solve an inequality that represents each problem.

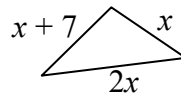
27. The sum of six and three times a number is greater than fifteen.

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.** $x \geq 9$