

Topic: Solve inequalities. Verify that given numbers are elements of the solution set.

Solve for x. (Show your work.) Indicate if the given value of x is an element of the solution set.

1. $2x - 9 < 3$

2. $4x + 25 > 13$

Is this value part of the solution set? $x = 6$; *yes?* *no?*

Is this value part of the solution set? $x = -5$; *yes?* *no?*

3. $6x - 4 \leq -28$

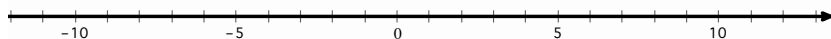
4. $3x - 5 \geq -5$

Is this value part of the solution set? $x = -10$; *yes?* *no?*

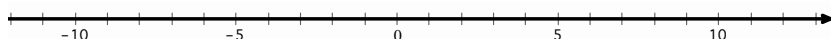
Is this value part of the solution set? $x = 1$; *yes?* *no?*

Solve each inequality and graph the solution on the number line.

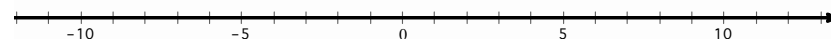
5. $x + 9 \leq 7$



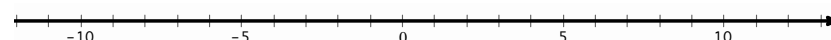
6. $-3x - 4 > 2$



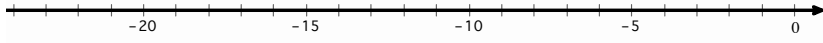
7. $3x < -6$



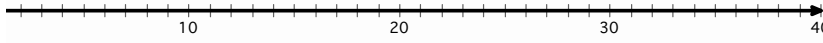
8. $\frac{x}{5} > -\frac{3}{10}$



9. $-10x > 150$



10. $\frac{x}{-7} \geq -5$



Solve each multi-step inequality.

11. $x - 5 > 2x + 3$

12. $\frac{3(x-4)}{12} \leq \frac{2x}{3}$

13. $2(x - 3) \leq 3x - 2$