

1. Write the equation (in the stated form) of a line passing through (2,-6) and (-1,7). Show all work.

a) POINT SLOPEb) SLOPE-INTERCEPTc) STANDARD

$$y+6 = -\frac{13}{3}(x-2)$$

$$y = -\frac{13}{3}x + \frac{8}{3}$$

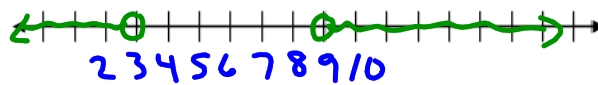
$$13x + 3y = 8$$

or

$$y-7 = -\frac{13}{3}(x+1)$$

Solve and graph the following equations or inequalities on a number line.

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



Solution: $x < 3$ or $x > 9$



Solution: $m \leq -1$ or $m \geq 2$

3. $-\frac{1}{4}|8m - 4| \leq -3$

$$|8m - 4| \geq 12$$

$$8m - 4 \geq 12 \text{ or } 8m - 4 = -12$$

$$\frac{8m}{8} \geq \frac{16}{8}$$

$$m \geq 2$$

$$\frac{8m}{8} \leq \frac{-8}{8}$$

$$m \leq -1$$

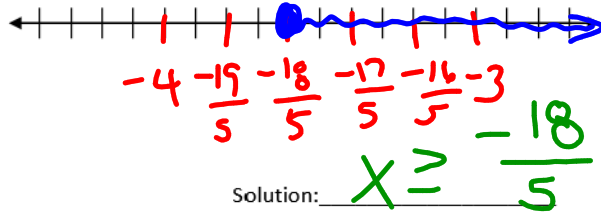
4. $\frac{2}{3}|5(\frac{1}{5}r - 2)| = -12$



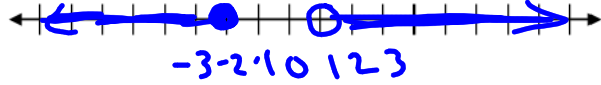
Solution: \emptyset

Solve and graph each inequality on the number line

5. $\frac{5}{3} - \frac{1}{4}x \geq -\frac{2}{3}x + \frac{1}{6}$

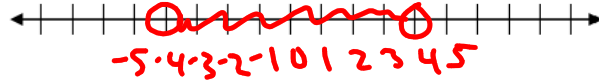


6. $3x - 1 > 2$ or $2x + 6 \leq 2$



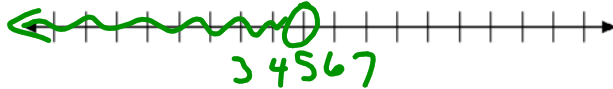
Solution: $X \leq -2$ or $x > 1$

7. $4z + 6 > -10$ and $-3z - 5 > -17$



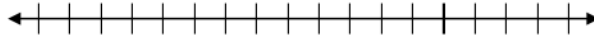
Solution: $-4 < z < 4$

8. $10x - 4 < 6$ or $4x - 12 < 8$



Solution: $X < 5$

9. $n + 1 < 4$ and $n - 1 > 4$



Solution: \emptyset