



Unit 2 Day 9 Notes
Solving Inequalities – Special Cases

Something you know . . . Solve the following equations.

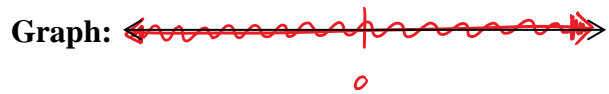
$$\begin{aligned} \text{a) } \underline{7} + \underline{3a} - 10 &= -3(-a + 1) \\ 3a - 3 &= 3a - 3 \\ -3 &= -3 \end{aligned}$$

All real solutions (\mathbb{R})

$$\begin{aligned} \text{b) } 6u - (4u - 12) &= 2u + 5 \\ 6u - 4u + 12 &= 2u + 5 \\ 2u + 12 &= 2u + 5 \\ 12 &\neq 5 \\ \text{No solution } (\emptyset) \end{aligned}$$

Case 1: Solve: $x + 4 > x + 2$

$$\begin{aligned} 4 &> 2 \\ \text{True!} \\ \mathbb{R} \end{aligned}$$



Case 2: Solve: $2x + 3 < 2x - 1$

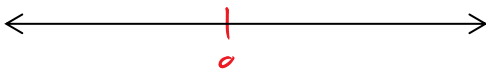
$$\begin{aligned} 4 &< 0 \\ \text{Not true} \\ \emptyset \end{aligned}$$



Solve and graph each inequality if possible.

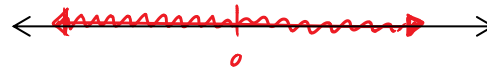
1)

$$\begin{aligned} 14x + 5 &< 14x - 21 \\ 5 &< -21 \\ \emptyset \end{aligned}$$



2)

$$\begin{aligned} 12x - 1 &> 12x - 6 \\ -1 &> -6 \\ \mathbb{R} \end{aligned}$$



Magnet Practice!!