

6.3 Multi-Step

*Just like equations

Solve each

$$\textcircled{1} \quad 3x - 7 < 8 \quad (\text{think } 3x - 7 = 8)$$

$+7$
 $+7$

$$3x < \frac{15}{3}$$

$$x < 5$$

$$\textcircled{2} \quad 8 \leq \frac{x}{4} - 2 \quad \frac{x}{4} - 2 \geq 8$$

$+2$
 $+2$

$$4 \cdot 8 \leq \frac{x}{4} \cdot 4 \quad \rightarrow \text{or} \quad 4 \cdot \frac{x}{4} \geq 10 \cdot 4$$

$$x \geq 40$$

$$\textcircled{3} \quad 3(2x + 4) < 48$$

$$6x + 12 < 48$$

-12
 -12

$$6x < \frac{36}{6}$$

$$x < 6$$

"Special" Cases

$$14x + 5 < 14x - 21$$

$-14x$
 $-14x$

$$5 < -21$$

Not true...

Means no solution

$$12x - 1 > 12x - 6$$

$-12x$
 $-12x$

$$-1 > -6$$

Yes... true so

all #'s work