Two Step Inequalities

$$-2x + 4 = 10$$
$$\underline{-4\ -4}$$
$$\frac{-2x}{-2} = \frac{6}{2}$$

$$x = -3$$

$$-2x + 4 \geq 10$$
$$\underline{-4\ -4}$$
$$\frac{-2x}{-2} \geq \frac{6}{-2}$$

flip sign

$$x \leq -3$$

$$\{-3, -4, -5\}$$

Equation   Inequality

only one Solution | isolate the variable | many Solutions

$* \div$ or $\bullet$ flip the sign

① $\dfrac{x}{3} + 7 \geq 4$

$$\underline{\phantom{\frac{x}{3}}-7\ -7}$$

(3) $\dfrac{x}{3} \geq -3\,(3)$

$$x \geq -9$$

$$\{-9, -8, -7...\}$$

② $16 < -2x + 8$

flip!

$$\underline{-8 \phantom{<-2x}-8}$$
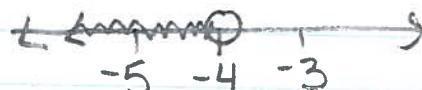$$\frac{8}{-2} < \frac{-2x}{-2}$$

$$-4 > x$$

variable on the right

$$x < -4$$