

$$1.) \quad x + 6 = 11$$

$-6 \quad -6$

$$\boxed{x = 5}$$

$$2.) \quad \frac{4x}{4} = \frac{32}{4}$$

$$\boxed{x = 8}$$

$$3.) \quad \left(\frac{x}{5}\right)^5 = (-3)^5$$

$$\boxed{x = -15}$$

$$4.) \quad x - 8 = 13$$

$+8 \quad +8$

$$\boxed{x = 21}$$

$$5.) \quad \frac{72}{9} = \frac{9x}{9}$$

$$\boxed{8 = x}$$

$$6.) \quad -9 = x - 4$$

$+4 \quad +4$

$$\boxed{-5 = x}$$

$$7.) \quad \begin{array}{l} (-4) \left(\frac{x}{-4} \right) = (-4) \left(\frac{13}{-4} \right) \\ \downarrow \qquad \qquad \qquad \downarrow \\ \boxed{-52 = x} \end{array}$$

$$8.) \quad -18 = x + 5$$

$-5 \quad -5$

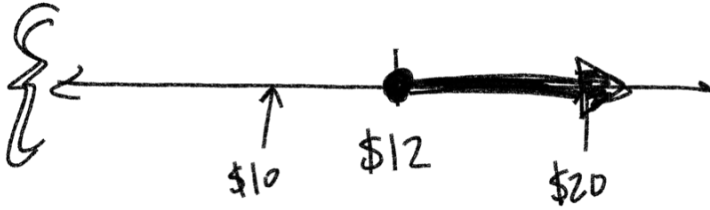
$$\boxed{-23 = x}$$

Inequalities

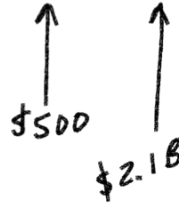


opens to larger value

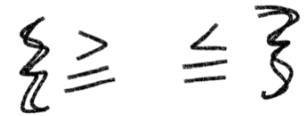
$$x \geq \$12$$



$>$ Greater than
 $<$ Less than

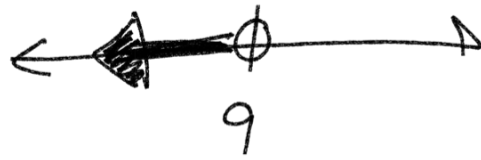
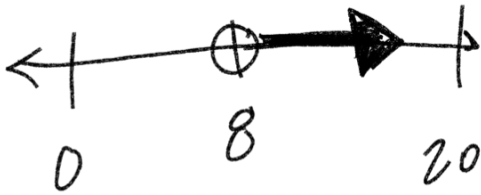


\geq Greater than or equal to
 \leq Less than or equal to



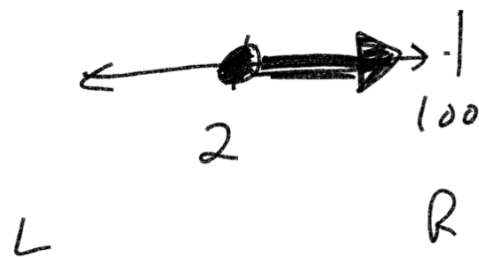
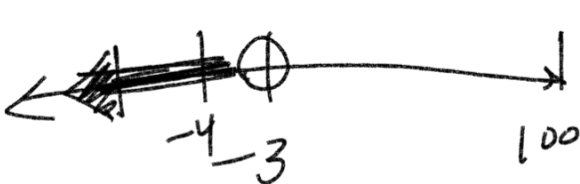
1.) $x > 8$

2.) $x < 9$



3.) $-3 > x$

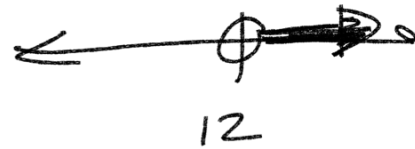
4.) $2 \leq x$



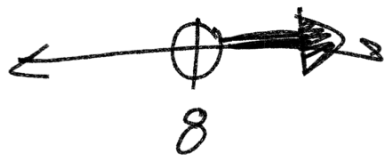
$$1.) \quad x \leq -4$$



$$2.) \quad x > 12$$



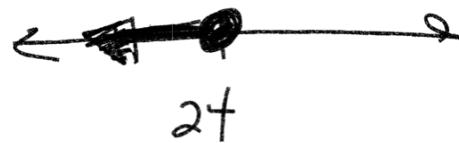
$$3.) \quad 8 < x$$



$$\begin{array}{r} x + 3 = 8 \\ -3 \quad -3 \end{array}$$

$$x = 5$$

$$4.) \quad 24 \geq x$$



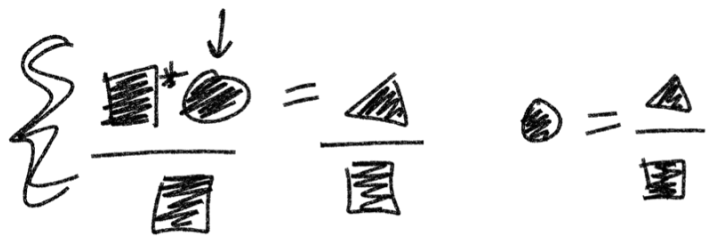
$$\begin{array}{r} x + 3 \geq 8 \\ -3 \quad -3 \end{array}$$

$$x \geq 5$$



$$\frac{-5x}{-5} < \frac{10}{-5}$$

\downarrow flip
 $x > -2$



* Whenever you multiply or divide by a negative, you must flip the inequality.

$$\frac{2x}{2} < \frac{-12}{2}$$

No flip
 $x < -6$

$$\frac{x}{-2} > (6)(-2)$$

$x < -12$ flip!
 mult by neg.

$$\frac{-3x}{-3} \leq \frac{-18}{-3}$$

flip!
 $x \geq 6$

$$1.) \frac{8x}{8} \leq \frac{40}{8}$$

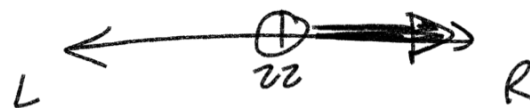
$$x \leq 5$$



$$2.) 12 < x - 10$$

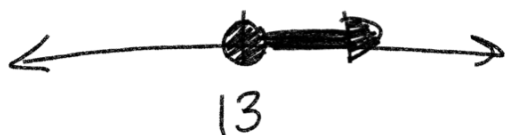
$$\xrightarrow{+10} 22 < (x)$$

opposite way



$$3.) x + 4 \geq 17$$

$$\xrightarrow{-4} x \geq 13$$



$$4.) \left(\frac{x}{-6} \right) > (3) \left(\frac{-6}{-6} \right)$$

$$x < -18 \text{ flip!}$$

