

## Absolute Value Equations

positive  
numbers

Ex

a)  $|-3| = 3$

b)  $|5| = 5$

c)  $|153| = 153$

d)  $|-29| = 29$

Ex

$$|x| = 4$$

$$x = -4 \quad x = 4$$

$$|x| = 6$$

$$x = 6 \text{ or } x = -6$$

\*

$$|x| = -8$$

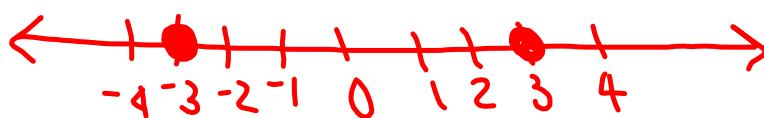
No Solution

b/c abs value cant  
be negative

$$|x| = 3$$

↙                      ↘

$$x = 3 \qquad x = -3$$



$$|x| = 2$$

↙                      ↘

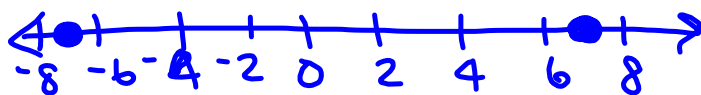
$$x = -2 \qquad x = 2$$



$$|x| = 7$$

↙                      ↘

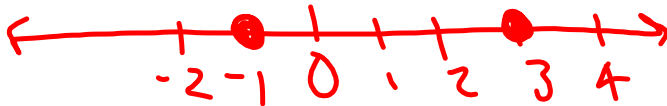
$$x = -7 \qquad x = 7$$



$$|x-1|=2$$

$$\begin{array}{r} x-1 = -2 \\ +1 \quad +1 \\ \hline x = -1 \end{array}$$

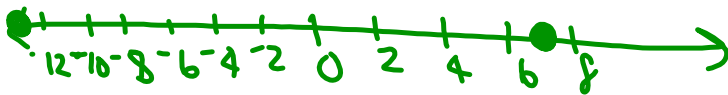
$$\begin{array}{r} x-1 = 2 \\ +1 \quad +1 \\ \hline x = 3 \end{array}$$



$$|x+3|=10$$

$$\begin{array}{r} x+3 = -10 \\ -3 \quad -3 \\ \hline x = -13 \end{array}$$

$$\begin{array}{r} x+3 = 10 \\ -3 \quad -3 \\ \hline x = 7 \end{array}$$



$$|x-12|=14$$

$$\begin{array}{r} x-12 = 14 \\ +12 \quad +12 \\ \hline x = 26 \end{array}$$

$$\begin{array}{r} x-12 = -14 \\ +12 \quad +12 \\ \hline x = -2 \end{array}$$

