

T-A1 Algebra 1 Week 17

$$4d - 12 > 16 \quad \text{or}$$

$$\begin{matrix} +12 & +12 \end{matrix}$$

$$\frac{4d}{4} > \frac{28}{4}$$

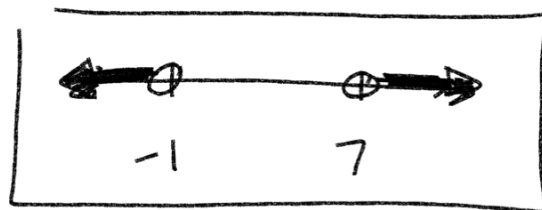
$$d > 7$$

$$\overbrace{2d - 6 < -8}$$

$$\begin{matrix} +6 & +6 \end{matrix}$$

$$\frac{2d}{2} < \frac{-2}{2}$$

$$d < -1 \quad \text{and} \quad -1 > d > 7$$



$$3x - 6 \geq -18 \quad \text{and}$$

$$\begin{matrix} +6 & +6 \end{matrix}$$

$$\frac{3x}{3} \geq \frac{-12}{3}$$

$$x \geq -4$$

$$\begin{matrix} \downarrow \\ +10 + 2x < 14 \\ -10 & -10 \end{matrix}$$

$$\frac{2x}{2} < \frac{4}{2}$$

$$x < 2$$



$$-18 < 2x - 14 \leq 2$$

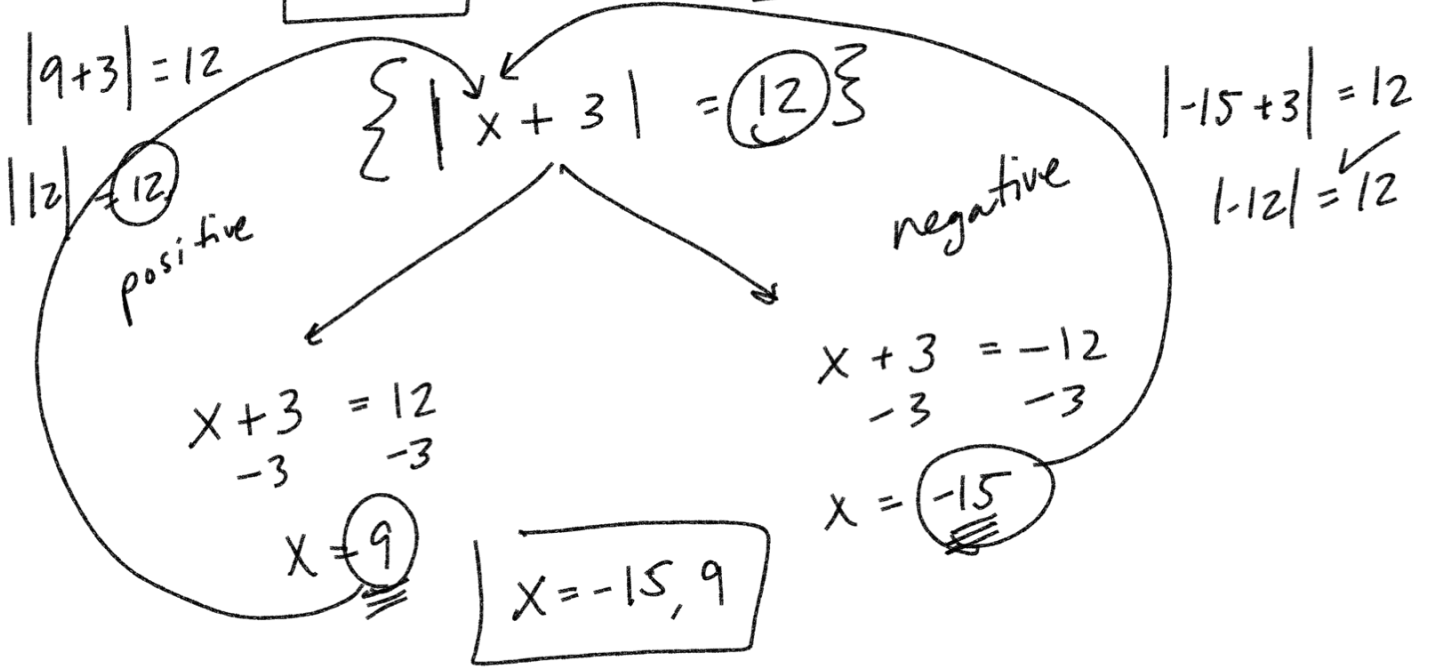
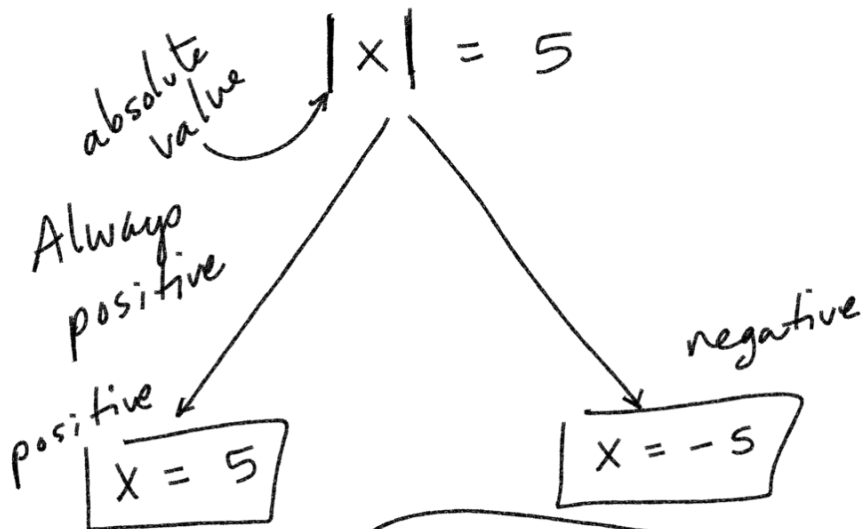
$$\begin{matrix} +14 & +14 & +14 \end{matrix}$$

$$\frac{-4}{2} < \frac{2x}{2} \leq \frac{16}{2}$$

$$-2 < x \leq 8$$

$$-2 < x \quad x \leq 8$$



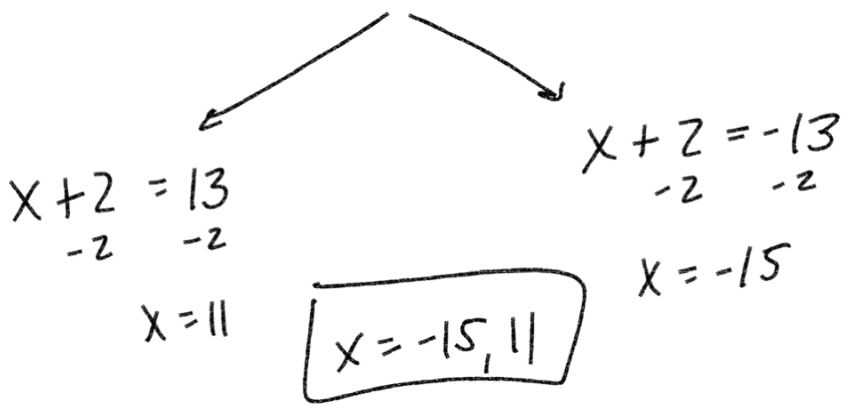


1st isolate the absolute value

$$|x+2| - 4 = 9$$

$$\begin{array}{r} +4 \\ +4 \end{array}$$

$$|x+2| = 13$$



$$|3x + 6| + 8 = 2$$

-8 -8

can absolute value equal a negative? NO!

"no solution"
"ns"

$$|3x + 6| = -6$$

Not isolated!

↓ ↓

$$-3 |x - 2| + 8 = -10$$

negative

$$-3 |x - 2| + 8 = -10$$

-8 -8

* →

$$\frac{-3 |x - 2|}{-3} = \frac{-18}{-3}$$

negative

isolated

$$|x - 2| = 6$$

positive

positive

$$x - 2 = 6$$

+2 +2

$$x = 8$$

negative

$$x - 2 = -6$$

+2 +2

$$x = -4$$

$$x = -4, 8$$

$$\textcircled{1} \left\{ |x| = \textcircled{8} \right\}$$

$$\boxed{x = 8} \quad \boxed{x = -8}$$

$$\textcircled{2} |x| - 4 = \textcircled{-3}$$

$$+4 \quad +4$$

$$|x| = 1$$

$$\boxed{x = 1} \quad \boxed{x = -1}$$

$$\textcircled{3} |x| + 5 = 3$$

$$-5 \quad -5$$

$$|x| = \textcircled{-2}$$

$$\boxed{\text{no solution}}$$

$$\textcircled{4} |x - 6| = \textcircled{8}$$

pos

$$x - 6 = 8$$

$$+6 \quad +6$$

$$x = 14$$

neg

$$x - 6 = -8$$

$$+6 \quad +6$$

$$x = -2$$

$$\boxed{x = -2, 14}$$

$$\textcircled{5} 4|x - 3| + 8 = 12$$

$$-8 \quad -8$$

$$* \rightarrow 4|x - 3| = 4$$

$$\frac{4}{4} \quad \frac{4}{4}$$

$$|x - 3| = \textcircled{1}$$

$$x - 3 = 1$$

$$+3 \quad +3$$

$$x = 4$$

$$x - 3 = -1$$

$$+3 \quad +3$$

$$x = 2$$

$$\boxed{x = 2, 4}$$

HW
Supplemental WS
 Online HW 17 } Feb 9th
 Quiz 17

HW/Quiz 15
 due tonight
 HW/Quiz 16
 due Feb 2nd



