

IM3- Solving Absolute Value Equations Homework

Steps for solving:

- 1) Isolate the absolute value term.
- 2) Split into two different equations. One with + and one with - .
- 3) Solve each and check your answers.

Examples: Solve algebraically and check graphically.

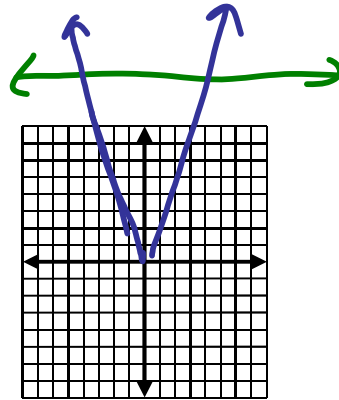
1) $|3x| = 18$

$$3x = 18$$

$$x = 6$$

$$3x = -18$$

$$x = -6$$



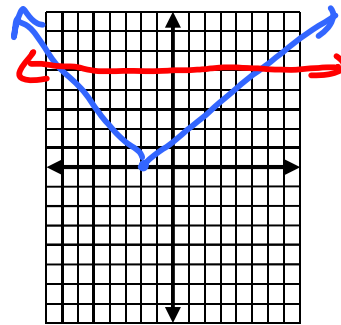
2) $|5 + x| = 5$

$$5 + x = 5$$

$$x = 0$$

$$5 + x = -5$$

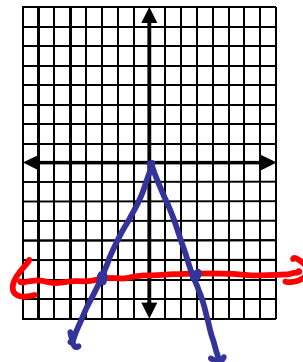
$$x = -10$$



3) $\frac{-2|x|}{-2} = \frac{-6}{-2}$

$$|x| = 3$$

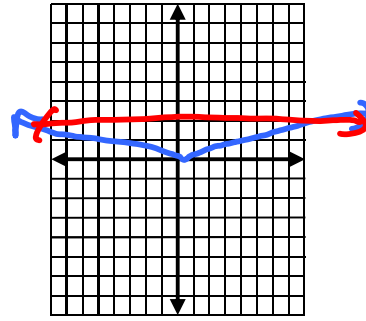
$$x = 3 \quad x = -3$$



$$4) \frac{|x|}{4} = 2 \cdot 4$$

$$|x| = 8$$

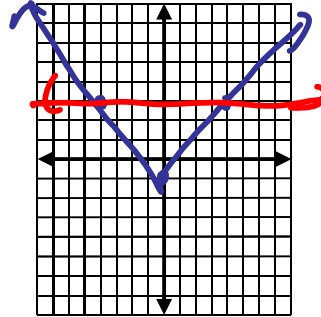
$$x = 8 \quad x = -8$$



$$5) |v| - 1 = 3$$

$$|v| = 4$$

$$v = 4 \quad v = -4$$



$$6) \frac{|-2+x|}{3} = 6$$

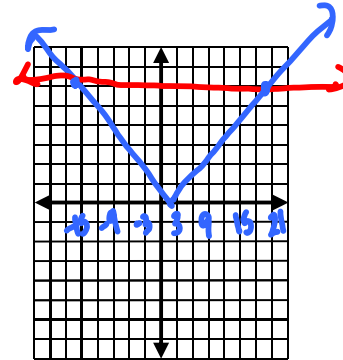
$$|-2+x| = 18$$

$$-2+x = 18$$

$$x = 20$$

$$-2+x = -18$$

$$x = -16$$



$$7) -|s+1| = -8$$

$$|s+1| = 8$$

$$s+1 = 8$$

$$s = 7$$

$$s+1 = -8$$

$$s = -9$$

