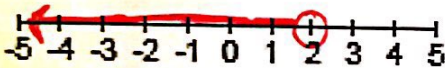# Day 2 - Solving Inequalities – Notes

A **solution** to an inequality is any number that makes the inequality true.
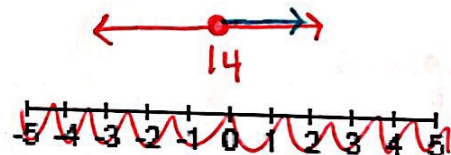
Value of x	$x - 4 > -12$	Is the inequality true?
-2	$-2 - 4 > -12$ $-6 > -12$	True
-8	$-8 - 4 > -12$ $-12 > -12$	False $(-12 = -12)$
-10	$-10 - 14 > -12$ $-24 > -12$	False

Practice: Solve each inequality and graph. Then name three solutions.

1. $x - 4 < -2$
$$\underline{+4 \quad +4}$$
$$x < 2$$

2. $7 \le \frac{1}{2}x \cdot 2$
$$14 \le x$$
$$x \ge 14$$

3. $\frac{x}{4} - 1 \ne 9$
$$\underline{+1 \quad +1}$$
$$4 \cdot \frac{x}{4} \ne 10 \cdot 4$$
$$x \ne 40$$

4. $6x - 5 \le 7 + 2x$
$$\underline{+5 \quad +5}$$
$$6x \le 12 + 2x$$
$$\underline{-2x \quad\quad -2x}$$
$$\frac{4x}{4} \le \frac{12}{4}$$
$$x \le 3$$

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