

# INVERSE PROPERTIES

ADDITIVE INVERSE -  $a + -a = 0$

$$3 + -3 = 0$$

THE SUM OF

ANY ~~ANY~~ RATIONAL

$$\frac{1}{3} + -\frac{1}{3} = 0$$

NUMBER & ITS INVERSE IS 0.

## MULTIPLICATIVE INVERSE

THE PRODUCT OF

$$a \cdot \frac{1}{a} = 1$$

ANY RATIONAL

$$-a \cdot -\frac{1}{a} = 1$$

NUMBER & ITS  
RECIPROCAL IS 1.

$$3 \cdot \frac{1}{3} = 1$$

$$-5 \cdot -\frac{1}{5} = 1$$

## ONE STEP EQUATIONS

$$x + 6 = -12$$

$$+ -6 + -6$$

$$x = -18$$

\* ISOLATE THE  
VARIABLE BY  
ADDING THE  
OPPOSITE TO  
THE CONSTANT.

CHECK  $-18 + 6 = -12$   
 $-12 \neq -12$

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

$$x = -4$$

CHECK  $3(-4) = -12$  ✓

\* DIVIDE BOTH SIDES BY COEFFICIENT OF VARIABLE TO SOLVE FOR

$$\frac{x}{8} = -2$$

$$\frac{8}{1} \cdot \frac{x}{8} = -2 \cdot 8$$

$$1x = -16$$

CHECK

$$\frac{-16}{8} = -2$$

\* MULTIPLY BOTH SIDES BY DIVISOR OF THE VARIABLE.