

3-6**Solving Equations Containing Integers***Solving One-Step Equations with Integers*

- The goal is to isolate the _____ . (Get x by itself)
- To do this, we use _____ .
- Inverse operations are _____ .
- Ex: _____ and _____ and _____
- _____ Property of _____ : whatever is subtracted from one side of the equal sign, must be _____ from the other side.
- The Properties of _____ apply for _____ , _____ , and _____ too.

3-6 Solving Equations Containing Integers

Solve. Check the answer.

1) $p + 5 = -3$

$$p + 5 = -3$$

$$\begin{array}{r} -5 \quad -5 \\ \hline \end{array}$$

$$p = -8$$

Check

$$p + 5 = -3$$

$$-8 + 5 = -3$$

$$-3 = -3$$



Subtract 5 to both sides to isolate the variable.

Substitute -8 for p in the original equation.

True. -8 is the solution to $p + 5 = -3$.

3-6 Solving Equations Containing Integers

Solve. Check the answer.

$$2) \quad y - 9 = -40$$

$$y - 9 = -40$$

$$\quad \quad \quad \underline{+9 \quad +9}$$

$$y = -31$$

Check

$$y - 9 = -40$$

$$-31 - 9 = -\overset{?}{40}$$

$$-40 = \overset{?}{-40} \quad \checkmark$$

Add 9 to both sides to isolate the variable.

Substitute -31 for y in the original equation.

True. -31 is the solution to $y - 9 = -40$.

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Solve. Check each answer.

$$3. \quad \frac{b}{-5} = 6$$

$$\frac{b}{-5} = 6$$

$$(-5) \left(\frac{b}{-5} \right) = 6(-5)$$

Multiply both sides by -5 to isolate the variable.

$$b = -30$$

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Check

$$\frac{b}{-5} = 6$$

$$\frac{-30}{-5} \stackrel{?}{=} 6$$

$$6 = 6 \quad \checkmark$$

Substitute -30 for b in the original equation.

True. -30 is the solution to

$$\frac{b}{-5} = 6.$$

3-6**Solving Equations Containing Integers**

Solve. Check each answer.

4. $-400 = 8y$

$$-400 = 8y$$

$$\frac{-400}{8} = \frac{8y}{8}$$

$$-50 = y$$

Divide both sides by 8 to isolate the variable.

3-6**Solving Equations Containing Integers**

Check.

$$-400 = 8y$$

$$-400 = 8^?(-50)$$

$$-400 = -400$$



Substitute -50 for y in the original equation.

True. -50 is the solution to $-400 = 8y$.