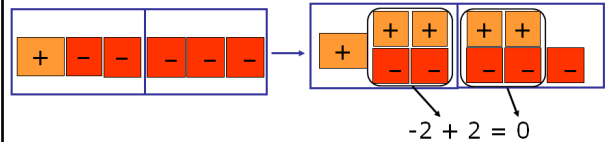


2.5 Solving Equations Containing Integers

p. 100

11-13-17

To solve integer equations such as $x - 2 = -3$ you must isolate the variable on one side of the equation. One way to isolate the variable is to add opposites. Recall that the sum of a number and its opposite is 0.



Oct 28-9:09 AM

Nov 12-8:29 AM

Solve each question. Check each answer.

$$-6 + x = -7$$

$$-6 + x = -7$$

$$\begin{array}{r} +6 \quad +6 \\ x = -1 \end{array}$$

Add 6 to both sides to isolate the variable.

Check

$$-6 + x = -7$$

$$-6 + (-1) \stackrel{?}{=} -7$$

$$-7 \stackrel{?}{=} -7$$

Substitute -1 for x in the original equation.

Solve each question. Check each answer.

$$-6 + x = -7$$

Check

Nov 12-8:38 AM

Nov 12-8:29 AM

Solve each equation. Check each answer.

$$p + 5 = -3$$

Nov 12-8:30 AM

Solve each equation. Check each answer.

$$y - 9 = -40$$

Nov 12-8:30 AM

Solve each equation. Check each answer.

$$-3 + x = -9$$

Nov 12-8:31 AM

Solve each equation. Check each answer.

$$q + 2 = -6$$

Nov 12-8:31 AM

Solve each equation. Check each answer.

$$y - 7 = -34$$

$$\begin{array}{r} y - 7 = -34 \\ +7 \quad +7 \\ \hline y = -27 \\ -27 - 7 = -34 \end{array}$$

Nov 12-8:31 AM

Solve each equation. Check each answer.

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

$$\begin{array}{r} -5 \cdot \frac{b}{-5} = 6 \cdot -5 \\ b = -30 \\ -30 \div -5 = 6 \end{array}$$

Nov 12-8:31 AM

Solve each equation. Check each answer.

$$-400 = 8y$$

$$\begin{array}{r} -400 = 8y \\ \frac{-400}{8} = \frac{8y}{8} \\ y = -50 \\ -50 \cdot 8 = -400 \end{array}$$

Nov 12-8:32 AM

Solve each equation. Check each answer.

$$\frac{c}{4} = -24$$

$$\begin{array}{r} 4 \cdot \frac{c}{4} = -24 \cdot 4 \\ c = -96 \\ -96 \div 4 = -24 \end{array}$$

Nov 12-8:32 AM

Solve each equation. Check each answer.

$-200 = 4x$

$$\frac{-200}{4} = \frac{4x}{4}$$

$$-50 = x$$

$$x = -50$$

$$4(-50) = -200$$

Nov 12-8:32 AM

In 2003, a manufacturer made a profit of \$300 million. This amount was \$100 million more than the profit in 2002. What was the profit in 2002?

Let p represent the profit in 2002 (in millions of dollars).

This year's profit 300	is	100 million 100	More than +	Last year's profit p
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$$300 = 100 + p$$

$$\frac{-100 \quad -100}{\quad \quad \quad}$$

$$p = 200 \text{ millions}$$

Nov 12-8:33 AM

This year the class bake sale made a profit of \$243. This was an increase of \$125 over last year. How much did they make last year?

Let x represent the money they made last year.

This year's profit 243	is	100 million 125	More than +	Last year's profit x
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$$243 = 125 + x$$

$$\frac{-125 \quad -125}{\quad \quad \quad}$$

$$x = 118$$

Nov 12-8:33 AM

Solve each equation. Check your answer.

1. $-8y = -800$

2. $x - 22 = -18$

3. $-\frac{y}{7} = 7$

4. $w + 72 = -21$

5. Last year a phone company had a loss of \$25 million. This year the loss is \$14 million more last year. What is this year's loss?

$$(-7) \cdot \frac{y}{-7} = 7 \cdot (-7)$$

$$y = 49$$

Nov 12-8:33 AM

$$\begin{array}{l} 8. \quad b - 7 = -16 \\ \quad \quad +7 \quad +7 \\ \hline \quad \quad b = -9 \\ -9 - 7 = -16 \end{array}$$

Nov 14-9:05 AM

$$\begin{array}{l} 9. \quad k + 6 = 3 \\ \quad \quad -6 \quad -6 \\ \hline \quad \quad k = -3 \\ -3 + 6 = 3 \end{array}$$

Nov 14-9:07 AM

$$\begin{array}{l} 10. \quad s + 2 = -4 \\ \quad \quad -2 \quad -2 \\ \hline \quad \quad s = -6 \\ -6 + 2 = -4 \end{array}$$

Nov 14-9:07 AM

$$\begin{array}{l} 11. \quad v + 14 = 10 \\ \quad \quad -14 \quad -14 \\ \hline \quad \quad v = -4 \\ -4 + 14 = 10 \end{array}$$

Nov 14-9:07 AM

12. $c + 8 = -20$

$$\begin{array}{r} -8 \quad -8 \\ \hline \end{array}$$

$$c = -28$$

$$-28 + 8 = -20$$

Nov 14-9:08 AM

13. $a - 25 = -5$

$$\begin{array}{r} +25 \quad +25 \\ \hline \end{array}$$

$$a = 20$$

$$20 - 25 = -5$$

Nov 14-9:08 AM