

Bell Work

Translate each sentence into an equation:

1. A number b divided by three is six less than c .
2. Fifteen more than z times 6 is 11 less than y times 2.

**Chapter 2.2 and 2.3 (One-Step and
Multi-Step Equations)**

Objectives:

- Solve one-step equations.
- Solve multi-step equations.

Solving an equation - finding the specific value(s) for the variable that make(s) the equation true

$$x = 5 \text{ is the solution for } 2x + 7 = 17$$

Guidelines when Solving Equations:

- 1) Use Inverse Operations
 - subtraction and addition
 - multiplication and division
- 2) Keep the Equation Balanced
 - If you do something on one side of the equal sign, you must do it on the other side!

Solving One-Step Equations

Ex. 1 $h - 12 = -27$

$$h - 12 = -27$$

$$h - 12 + 12 = -27 + 12$$

$$h = -15$$

Ex. 2 $c + 102 = 36$

$$c + 102 = 36$$

$$c + 102 - 102 = 36 - 102$$

$$c = -66$$

Ex. 3 $-75 = -15b$

$$\frac{-75}{-15} = \frac{-15b}{-15}$$

$$5 = b$$

Ex 4. Solve $\left(-1\frac{3}{8}\right)k = \frac{2}{3}$

$$\left(-\frac{11}{8}\right)k = \frac{2}{3}$$

$$-\frac{8}{11}\left(-\frac{11}{8}\right)k = -\frac{8}{11}\left(\frac{2}{3}\right)$$

$$k = -\frac{16}{33}$$

Practice

1. $-\frac{a}{4} = 16$

3. $-75 = -15b$

2. $129 + k = -42$

4. $-\frac{1}{4} = \frac{2}{3}b$

Solve Multi-Step Equations

Ex. 1 $2q + 11 = 3$

$$\begin{aligned}2q + 11 &= 3 \\2q + 11 - 11 &= 3 - 11 \\2q &= -8 \\ \frac{2q}{2} &= \frac{-8}{2} \\q &= -4\end{aligned}$$

Ex. 2 Solve $\frac{k+9}{12} = -2$

$$\begin{aligned}12\left(\frac{k+9}{12}\right) &= 12(-2) \\k + 9 &= -24 \\k + 9 - 9 &= -24 - 9 \\k &= -33\end{aligned}$$

Practice

1. $6v + 7 = -5$

2. $\frac{-4j - (-4)}{-6} = 12$

Susan had a \$10 coupon for the purchase of any item. She bought a coat that was $\frac{1}{2}$ its original price. After using the coupon, Susan paid \$125 for the coat before taxes. What was the original price of the coat? Write an equation for the problem. Then solve the equation.

Words	One-half	of	the price	minus	ten dollars	is	125.
Variable	Let p = the original price.						
Equation	$\frac{1}{2}$	\cdot	p	$-$	10	$=$	125

$$\frac{1}{2}p - 10 = 125 \quad \text{Original equation}$$

$$\frac{1}{2}p - 10 + 10 = 125 + 10 \quad \text{Add 10 to each side.}$$

$$\frac{1}{2}p = 135 \quad \text{Simplify.}$$

$$2\left(\frac{1}{2}p\right) = 2(135) \quad \text{Multiply each side by 2.}$$

$$p = 270 \quad \text{Simplify.}$$

Answer: The original price of the coat was \$270.

Homework

Lesson 2.3 (Page 94)