

Name: \_\_\_\_\_ Block: \_\_\_\_\_ Date: \_\_\_\_\_

## Writing and Solving *Real-World* Algebraic Equations

**DIRECTIONS:** Write an algebraic equation for each of the following situations, then solve for the variable in the equation.

- 1.) Jeanne has \$17.00 in her piggy bank and wants to buy a game that costs \$68.00. Write an equation to represent how much more money Jeanne needs. Solve to find out how much more money Jeanne needs.

$$17 + n = 68$$

$$\begin{array}{r} 17 + n = 68 \\ -17 \quad -17 \\ \hline \end{array}$$

$$n = 51$$

Check: ?

$$17 + 51 = 68$$

$$68 = 68 \checkmark$$

Example

- 2.) Eleni is  $x$  years old. In thirteen years she will be twenty-four years old. Write an equation to represent how old Eleni is. Solve to find out how old Eleni is.
- 3.) Each piece of candy costs \$0.25. The price of  $h$  pieces of candy is \$4.00. Write an equation to find out how many pieces of candy you could buy for \$4.00. Solve to find out how many pieces of candy you could buy for \$4.00.
- 4.) Suzanne made a withdrawal of  $d$  dollars from her savings account. Her old balance was \$350 and her new balance is \$280. Write an equation to represent how much money Suzanne took out of her savings account. Solve to find out how much money Suzanne took out of her savings account.

- 5.) A large pizza pie with 15 slices is shared among  $p$  students so that each student's share is 3 slices. Write an equation to find out how many students shared the pizza. Solve to find out how many students shared the pizza.
- 6.) Carly is 15, which is four years younger than Samantha's age. Write an equation to represent how old Samantha is. Solve to find out how old Samantha is.
- 7.) Gary used 32 pieces of paper and Randy used  $m$  pieces of paper. Together, they used 94 pieces of paper. Write an equation to represent the amount of paper Randy used. Solve to find how much paper Randy used.
- 8.) A supply closet has 1,821 pencils. The principal orders more pencils so that there are a total of 2,500 pencils. Write an equation to represent the number of pencils the principal orders. Solve to find how many pencils the principal orders.
- 9.) Cinthia spends 13 minutes on each phone call she makes. She is on the phone for 117 minutes. Write an equation to represent the number of phone calls Cinthia made. Solve to find how many phone calls Cinthia made.

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## Writing and Solving Algebraic Equations

**DIRECTIONS:** Write an algebraic equation for each of the following situations, then solve for the variable in the equation.

1.) 4 times s equals 50

*Example*

$$4s = 50$$
$$\frac{4s}{4} = \frac{50}{4}$$
$$s = 12.5$$

Check:

$$4(12.5) \stackrel{?}{=} 50$$
$$50 = 50 \checkmark$$

2.) When you take away 6 from c it equals 12

3.) 20 divided by a number equals 4

4.) When a number is added to 4 it equals 16

5.) The sum of 2 and m equals 13

6.) c divided by 5 equals 6

7.) 8 less than  $w$  equals 45

8.) A number increased by nine is fifteen

9.) The product of 3 and  $n$  is 33

10.) The sum of a number and 6 is 15

**Stretch Your Brain:**

1.) Twice a number, decreased by 29, is seven

2.) Twelve is sixteen less than four times a number