

Writing and Solving Equations

Objectives:

I will be able to:

- Write an algebraic equation that fits a given situation.
- Solve a one-step algebraic equation.

Do Now:

1. Maria has three more than twice as many crayons as Elizabeth. Write an algebraic expression to represent the number of crayons that Maria has. Let e represent the number of crayons that Elizabeth has.

Expression: _____

2.

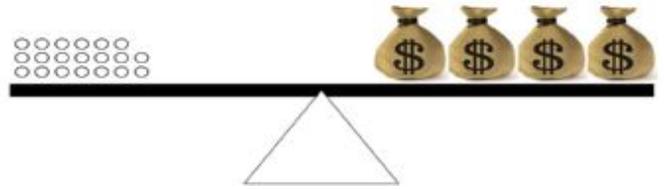
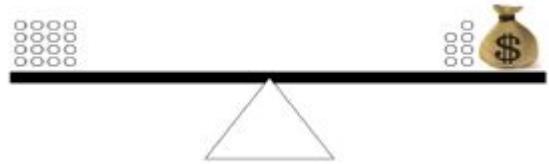
One Bag of Money has _____ coins in it.

Equation: _____

3.

One Bag of Money has _____ coins in it.

Equation: _____



Writing and solving equations:

1. Read the situation.
2. Think about what is the unknown in the situation. We can use a variable for this!
3. Create an equation to show what is going on.

Problema 1:

Emma knows that her plant is growing 2 inches each week. Let w represents the number of weeks Emma's plant has been growing.

- a. Write an expression to show the height of the plant.

Expression: _____

- b. Emma measures her plant and it is 16 inches tall. Write an equation to show what is going on.

Equation: _____

How many weeks old is this plant? _____

Write your answer: _____

Problem 2:

Isaiah just bought a snow shovel for \$9. He forgot how much money he had when he entered the shop. Let m represent the amount of money he had before he bought the snow shovel.

- a. Write an expression to show the amount of money he has now.

Expression: _____

- b. He counts his money and find that he now has \$25. Write an equation to show what is going on.

Equation: _____

How much money did Isaiah have before he bought the snow shovel? _____

Write your answer: _____

Problem 3:

Each student pays \$4 to enter the dance. Let t represent the number of students that go to the dance.

1. Write an expression for the amount of money collected for the dance.

Expression: _____

2. The school collects a total of \$168. Write the equation that shows what is going on.

Equation: _____

How many students went to the dance? _____

Write your answer: _____

Problem 4:

Lisa gave her mom \$10. Let m represent the amount of money Lisa had before she gave her mom money.

- a. Write an expression that shows how much money Lisa has now.

Expression: _____

- b. She counts her money and now she has \$47. Write an equation to show what is going on.

Equation: _____

How much money did Lisa have before she gave her mom money? _____

Write your answer: _____

Problem 5:

Niki works at the library. She makes \$7 per hour. Let h represent the number of hours that she works.

- a. Write an expression that shows how much money Niki will have after working h hours.

Expression: _____

- b. She makes \$105. Write an equation to show what is going on.

Equation: _____

- c. How many hours did Niki work to make \$105? _____

Write your answer: _____

Problem 6:

On February 20, 2013 the Celtics played the Lakers in LA. Kevin Garnett had some points in the game. Let k represent the number of points Kevin Garnett made. Paul Pierce made 14 more points than Kevin Garnett.

- a. Write an expression that shows how many points Paul Pierce made.

Expression: _____

- b. Paul Pierce had 26 points in the game. Write an equation to show what is going on.

Equation: _____

- c. How many points did Kevin Garnett make in the game? _____

Write your answer: _____

Problem 7:

Eden, Isaiah, and Naomi are performing a poem for class. The poem has a number of lines. Let n represent the number of lines in the poem. They each need to read the same number of lines of the poem.

- a. Write an expression to show how many lines each person will need to read.

Expression: _____

- b. Each person will need to read 17 lines. Write an equation showing what is going on.

Equation: _____

How many total lines are in the poem? _____

Write your answer: _____

Problem 8:

It costs \$10 per month to go to Planet Fitness. Let m represent the number of months you go to Planet Fitness. When you sign up you have to pay a registration fee of \$25.

a. Write an expression to show how much total money you'll spend if you join Planet Fitness for m months.

Expression: _____

b. You spend a total of \$105. Write an equation to show what is going on.

Equation: _____

c. How many months did you go to Planet Fitness?

Write your answer: _____

Problem 9:

Keayon flew on a plane to Miami. Let d represent the distance in miles from Boston to Miami. The flight took 4 hours. Keayon wants to figure out the speed the plane was going in miles per hour.

a. Write an expression to show the speed of the plane in miles per hour.

Expression: _____

b. The speed of the plane was 314.5 miles per hour. Write an equation showing what is going on.

Equation: _____

c. What is the distance in miles between Boston and Miami? _____

Write your answer: _____

Problem 10:

Mr. Wyrick is buying t-shirts for the basketball team. Each shirt costs \$5.50. Let p represent the number of players on the team.

a. Write an expression to show how much it would cost to buy all the players t-shirts.

Expression: _____

b. The total cost of t-shirts for the team is \$77. Write an equation to show what is going on.

Equation: _____

c. How many students are on the team? _____

Write your answer: _____