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Unit 6, Lesson 2

# Truth and Equations

Let's see what it means to find a solution for an equation with a variable.

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## 2.1Notice and Wonder: Equations

What do you notice? What do you wonder?

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## 2.2Three Letters

1. The equation could be true or false.
   1. If is 3, is 4, and is 5, is the equation true or false?
   2. Find new values of , , and that make the equation true.
   3. Find new values of , , and that make the equation false.
2. The equation could be true or false.
   1. If is 3, is 4, and is 12, is the equation true or false?
   2. Find new values of , , and that make the equation true.
   3. Find new values of , , and that make the equation false.

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## 2.3Find a Solution

Here are some equations that contain a **variable** and a list of values. Think about what each equation means and find a **solution** in the list of values. If you get stuck, consider drawing a diagram. Be prepared to explain your reasoning.

List:

0.01

0.1

0.5

1

2

8.5

9.5

16.7

20

400

600

1400

### Are you ready for more?

One solution to the equation is , , .

How many different whole-number solutions are there to the equation ? Explain or show your reasoning.

## Lesson 2 Summary

An equation can be true or false. An example of a true equation is . An example of a false equation is .

An equation can have a letter in it to represent a value, for example, . This equation is false if is 3, because does not equal 8. This equation is true if is 7, because .

A letter in an equation that represents an unknown value is called a **variable**. In , the variable is . A number that can be used in place of the variable that makes the equation true is called a **solution** to the equation. In , the solution is 7.

When a number is written next to a variable, it means the number and the variable are being multiplied. For example, means the same thing as . A number written next to a variable is called a **coefficient**. If no coefficient is written, the coefficient is 1. For example, in the equation , the coefficient of is 1.