

Lesson 10

Writing Equations

NAME: _____



Start by navigating to the Online Lesson for instructions.

Objectives

- ✓ Solve one- and two-step equations containing variables and integer coefficients
- ✓ Solve one- and two-step equations containing variables and fractions (coefficients and/or constant terms)
- ✓ Use substitution, this includes checking a solution to a single variable equation

Why?

We write equations to turn real-world problems into math problems we can solve. Equations help us show relationships between numbers like money spent, distance traveled, or time worked by using variables and symbols. When you can write an equation, you can model real situations, find unknowns, and make sense of everyday problems using math.

Explore

Writing Equations

▶ *Fill in the guided notes as you watch the video in the Online Lesson.*

- When writing an equation from a word problem, _____ the problem carefully.
- Ask yourself, “What are the key pieces of information in this problem?”
 - Circle, highlight, or mark _____ you think is important.
 - Determine mathematical words being used that imply _____.
 - Sketch a _____ if needed.
- Define the _____ you will use for the problem.

Example 1

▶ Complete the example as you watch the video in the Online Lesson.

Kelly wrote an article after attending the school art show. The art teacher shared that two-thirds of the submissions were paintings, and the rest were pottery. If Kelly counted twenty pieces of pottery, what was the total number of submissions for the art show?

The art show had _____.

Example 2

▶ Complete the example as you watch the video in the Online Lesson.

Daniel bought 4 shirts and a pair of pants. The pants were \$25.50. He spent a total of \$84.50. How much was each shirt?

The cost of one shirt is _____.

Example 3

▶ Complete the example as you watch the video in the Online Lesson.

Patrick and Joseph decide to make homemade pasta for dinner. The ratio of cups of flour to eggs is three to two. If nine people are eating dinner, and the recipe notes suggest that you use one egg per person, how much of each ingredient is needed?

Patrick and Joseph will need

_____ cups of flour and

_____ to make the pasta.

Complete the problems. Show your work.

- 4) Sara earns \$50 for every lawn she mows. She wants to save \$750 this summer. Sara has already mowed three lawns. How many more lawns does she need to mow to reach her goal?
- 5) Natalee and her family took a trip to the botanical gardens where she counted 10 butterflies on a single plant. The ratio of Monarch butterflies to Viceroy butterflies was 2 to 3. How many of each type of butterfly were on the plant?

Hint: The ratio of Monarch butterflies to the total number of butterflies is 2 to 5. You can apply the same idea to Viceroy butterflies.



To continue, return to the Online Lesson.