

Lesson Summary

If a proportional relationship is described by the set of ordered pairs (x, y) that satisfies the equation $y = kx$ for some number k , then k is called the *constant of proportionality*.

Problem Set

For each of the following problems, define the constant of proportionality to answer the follow-up question.

1. Bananas are \$0.59/pound.
 - a. What is the constant of proportionality, or k ?
 - b. How much will 25 pounds of bananas cost?
2. The dry cleaning fee for 3 pairs of pants is \$18.
 - a. What is the constant of proportionality?
 - b. How much will the dry cleaner charge for 11 pairs of pants?
3. For every \$5 that Micah saves, his parents give him \$10.
 - a. What is the constant of proportionality?
 - b. If Micah saves \$150, how much money will his parents give him?
4. Each school year, the seventh graders who study Life Science participate in a special field trip to the city zoo. In 2010, the school paid \$1,260 for 84 students to enter the zoo. In 2011, the school paid \$1,050 for 70 students to enter the zoo. In 2012, the school paid \$1,395 for 93 students to enter the zoo.
 - a. Is the price the school pays each year in entrance fees proportional to the number of students entering the zoo?
 - b. Explain why or why not.
 - c. Identify the constant of proportionality, and explain what it means in the context of this situation.
 - d. What would the school pay if 120 students entered the zoo?
 - e. How many students would enter the zoo if the school paid \$1,425?