Lesson Summary:

If a proportional relationship is described by the set of ordered pairs that satisfies the equation $y = kx$, where k is a positive constant, 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?
   b. How much does 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 7th graders who study Life Science participate in a special field trip to the city zoo. In 2010, the school paid $1260 for 84 students to enter the zoo. In 2011, the school paid $1050 for 70 students to enter the zoo. In 2012, the school paid $1395 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?