

Real-World Functions

In many real-world situations, one quantity depends upon two or more other quantities.

EXAMPLE Identify the variables in a function

Mr. Garrison is planning to fill his car with gasoline on his way to work tomorrow. What factors will determine how much he will spend?

Solution:

The amount that Mr. Garrison will spend depends upon both the number of gallons that he buys and the price per gallon. The cost of filling a car with gasoline is a function of two variables. ■

Practice

1. Apples are usually sold by the pound. What factors will determine the price of three apples?
2. At his part time job, Jose is paid by the hour. What factors will determine how much he earns this week?
3. Mrs. Kingsley is driving from her home to a friend's house in another town. What factors will determine how long her trip takes?
4. Mr. Waters is renting a car by the day. What factors will determine the cost of renting the car?
5. Greg is calculating the area of a triangle. What factors determine the area of a triangle?
6. Dina is calculating the area of a rectangle. What factors determine the area of a rectangle?
7. Cindy is finding the volume of a cylinder. What factors determine the volume of a cylinder?
8. Valerie is finding the volume of a cone. What factors determine the volume of a cone?
9. **Challenge** What factors determine the volume of a rectangular prism?
10. **Challenge** What factors determine the amount of money in a savings account?

Activity

11. Use the Internet or some other reliable source to find a quantity that depends upon at least four factors.