Lesson 16, Part A, Describing rates — Theme: Personal Finance

Interpreting numbers in advertising or product descriptions can be problematic. Data can be presented in ways that point to faulty conclusions. The table below presents the approximate distances that three vehicles can travel on a tank of gas.

Credit: Hayati Kayhan/Fotolia

Model	Miles per Tank
Suburban	651.0
Focus	446.4
Volt	380.0

1) Write down one conclusion or impression you can draw from the data in the table.

2) Compose two questions you would like to have answered to help you interpret the information in the table.

Objectives for the lesson

You will understand:

- ☐ The meaning of slope in a problem situation.
- ☐ How slope affects the behavior of a graph.

You will be able to:

- ☐ Calculate slope in direct variation situations.
- ☐ Express slope with appropriate units.
- ☐ Interpret slope in a problem situation.

3) A Suburban has a fuel capacity of 31 gallons. How can you use this new information to find how far a Suburban can travel on one gallon of gas?

4) Calculate the distance that a Suburban can travel on one gallon of gas. Write your solution as a unit fraction, with labels in both the numerator and denominator.

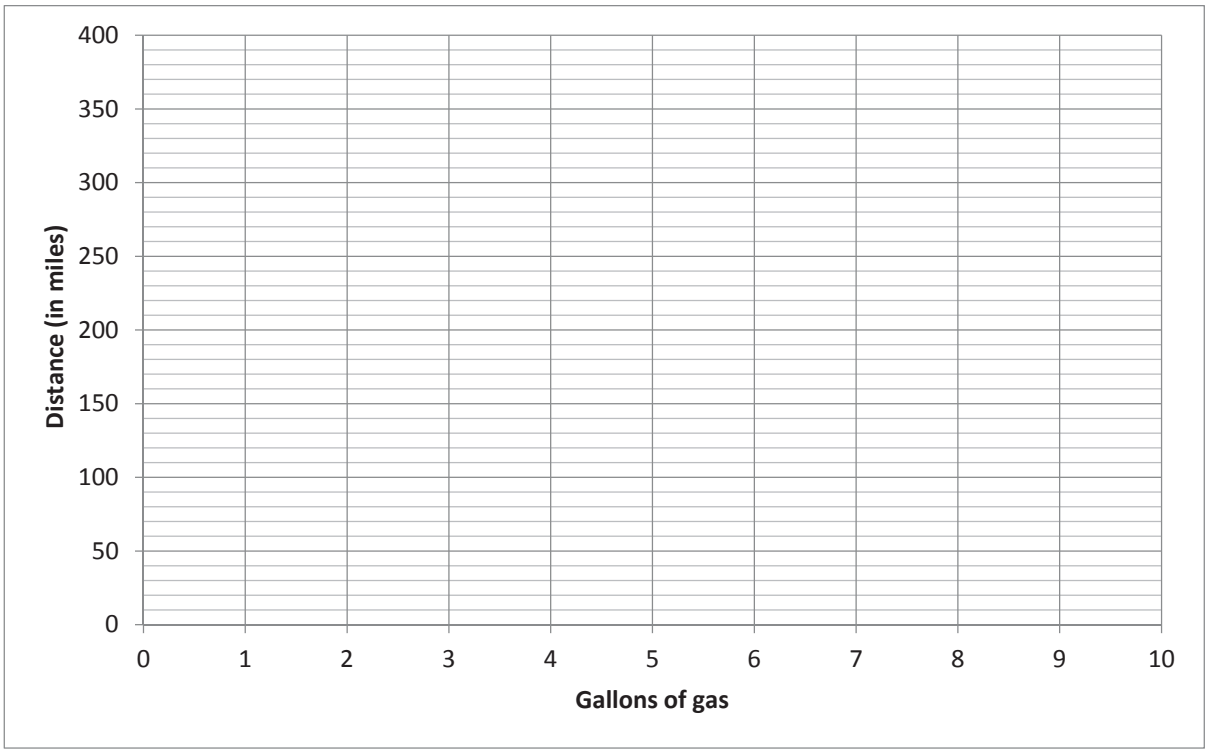
5) Write a contextual sentence interpreting the meaning of the number you found in question 4.

6) Create a table like the one shown. Use your answer to question 4 to calculate the distance a Suburban can travel on the given gasoline amounts.

x = Gallons of Gas	1	2	3	4	5	6	7
y = Distance (in miles)							

7) Notice that every time the amount of gas increases by one gallon, the distance increases by a fixed amount. This fixed amount represents the **slope** in the relationship between gas consumption and distance. What is the fixed amount?

8) Create a coordinate plane like the one shown below. Plot the coordinates of the points that represent (gas, distance) for the Suburban.



9) Write a few sentences in your own words, describing how the "behavior" of your graph relates to the information in the problem.