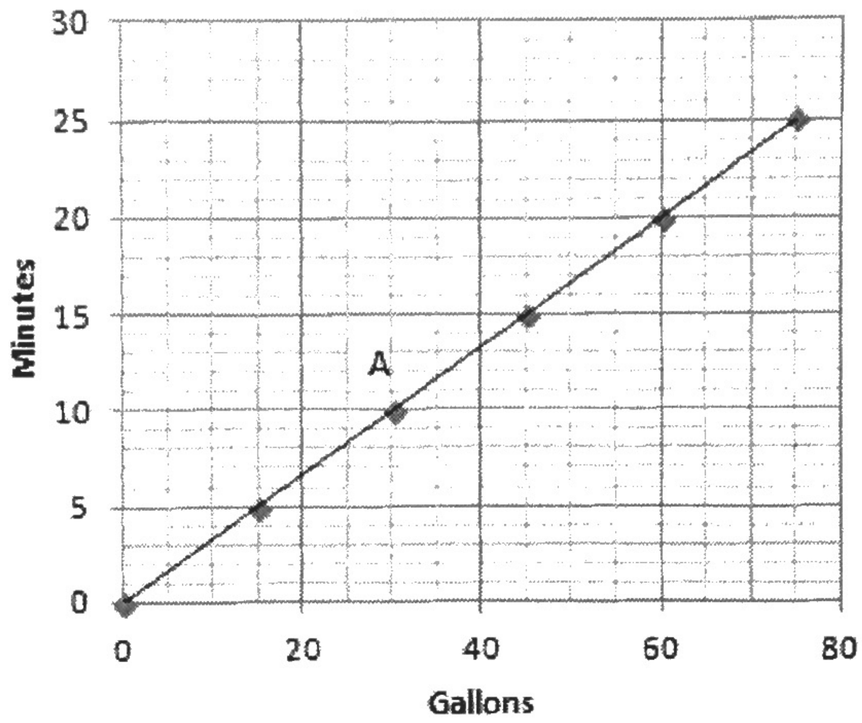
Proportional Relationships Review

Exercises

1. The graph below shows the amount of time a person can shower with a certain amount of water.



a. Can you determine by looking at the graph whether the length of the shower is proportional to the number of gallons of water? Explain how you know.

b. How long can a person shower with 15 gallons of water and with 60 gallons of water?

c. What are the coordinates of point A? Describe point A in the context of the problem.

d. Can you use the graph to identify the unit rate?

e. Plot the unit rate on the graph. Is the point on the line of this relationship?

f. Write the equation to represent the relationship between the number of gallons used and the length of a shower.

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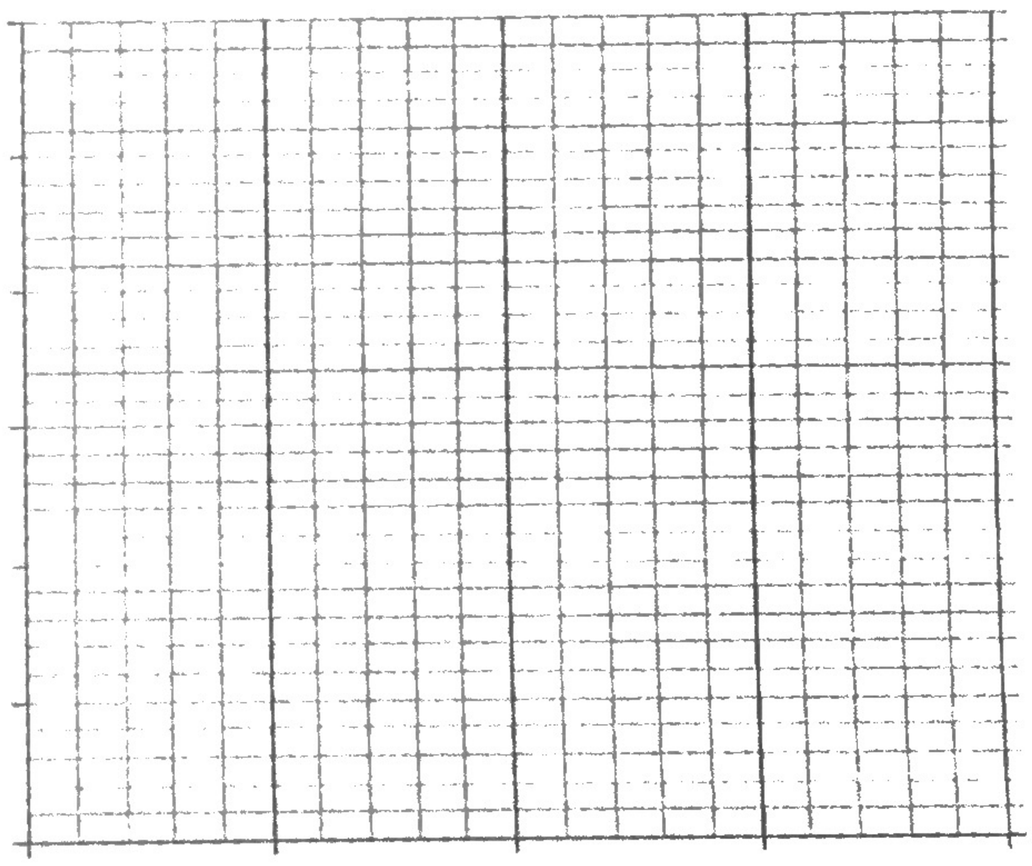
2. Your friend uses the equation $C = 50P$ to find the total cost of P people entering the local Amusement Park.

   a. Create a table and record the cost of entering the amusement park for several different-sized groups of people.

   b. Is the cost of admission proportional to the amount of people entering the Amusement Park? Explain why or why not.

   c. What is the unit rate and what does it represent in the context of the situation?

   d. Sketch a graph to represent this relationship.



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e. What point(s) MUST be on the graph of the line if the two quantities represented are proportional to each other? Explain why and describe this point in the context of the problem.

f. Would the point (5,250) be on the graph? What does this point represent in the context of the situation?

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3. The following table shows the amount of candy and price paid.

Amount of Candy (pounds)	2	3	5
Cost (Dollars)	5	7.5	12.5

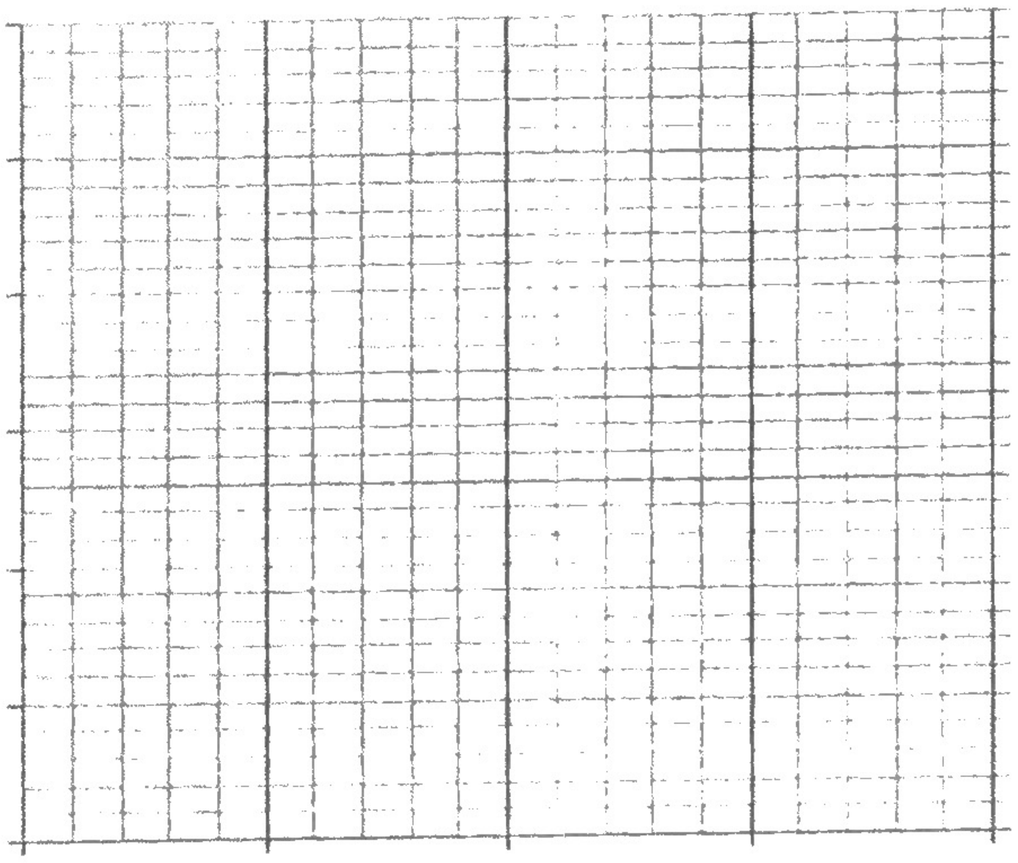
a. Is the cost of candy proportional to the amount of candy?

b. Write an equation to illustrate the relationship between the amount of candy and the cost.

c. Using the equation, predict how much it will cost for 12 pounds of candy?

d. What is the maximum amount of candy you can buy with $60?

e. Graph the relationship.



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