

Performance-Based Assessment 1
Proportional Reasoning – Grade 7

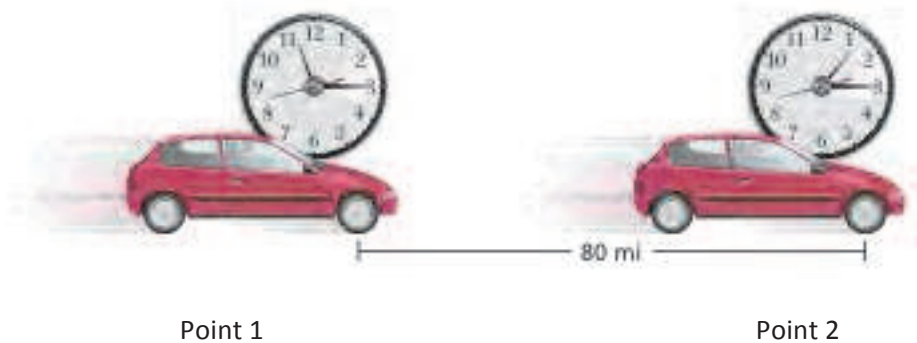
Student
Name

School

Date

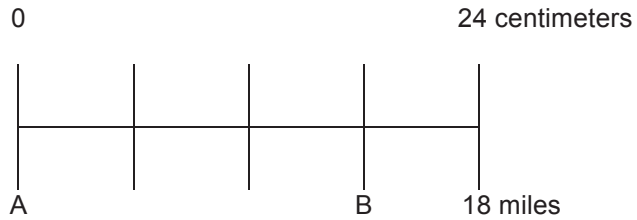
Teacher

1. Amy and her family were traveling during their vacation. She looked at her watch at Point 1 in the diagram below, and then again at Point 2 in the diagram below. Her mom told her how far they traveled in that time, as noted below.



- a. Based on this information, what is the unit rate of the car? Explain in writing what that unit rate means in the context of the problem.
- b. Amy's dad said that the entire trip was 1200 miles. How many hours will it take to complete the trip? Explain how you know.

2. On a map of the United States, 24 centimeters represents 18 miles.



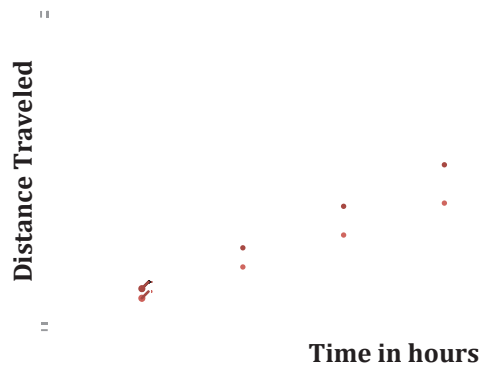
- a. How many centimeters represent one mile?

- b. How long is the line segment between A and B in centimeters?

- c. If A and B represent two cities, what is the actual distance between the two cities?

3. Jack and Jill raced cross-country on motor bikes. Jack drove 325 miles in 5 hours; Jill took $6\frac{1}{2}$ hours to travel the same distance as Jack.
- a. Compute the unit rates that describe Jack's average driving speed and Jill's average driving speed. Show how you made your decisions.

- b. A portion of the graph of Jack and Jill's race appears below. Identify which line segment belongs to Jack and which belongs to Jill. Explain in writing how you made your decisions.



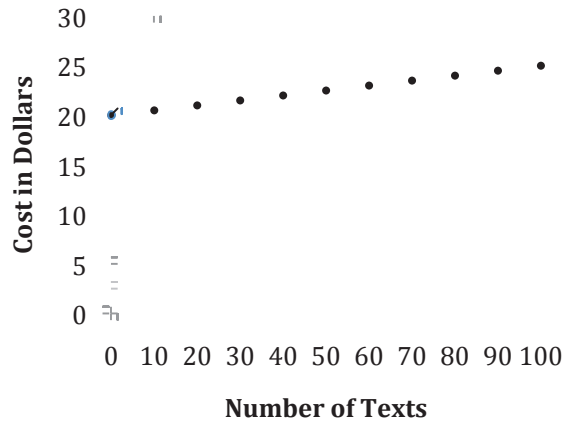
4. Reynaldo is planning to drive from New York to San Francisco in his car. Reynaldo started to fill out the table below showing how far in miles he can travel for each gallon of gas he uses.

| | | | | | | |
|---------|----|---|-----|-----|----|----|
| Gallons | 2 | 4 | | 8 | 10 | 12 |
| Miles | 56 | | 168 | 224 | | |

Use the information in Reynaldo's table to answer the questions below.

- Complete the table for Reynaldo. Assume the relationship in the table is proportional.
- Based on the table, how many miles per gallon did Reynaldo's car get? Explain in writing how you know.
- Write an equation that Reynaldo can use to find the distance (d) he can drive on any number of gallons of gas (g).
- When Reynaldo's tank is full, it holds 20 gallons. How far can Reynaldo drive on a full tank of gas?

5. The monthly cost of Jazmine’s cell phone plan is graphed on the grid below. Her friend Kiara selected a plan that charges \$0.25 per text, with no monthly fee, because she only uses her phone for texting.



- a. Write an equation to represent the monthly cost of Kiara’s plan for any number of texts.

- b. Graph the monthly cost of Kiara’s plan on the grid above.

- c. Using the graphs above, explain the meaning of the following coordinate pairs:
 - i. (0, 20): _____

 - ii. (0, 0): _____

 - iii. (10, 2.5): _____

 - iv. (100, 25): _____

- d. When one of the girls doubles the number of texts she sends, the cost doubles as well. Who is it? Explain in writing how you know.