

UNIT 1 STUDY GUIDE

Rates & Proportional Reasoning

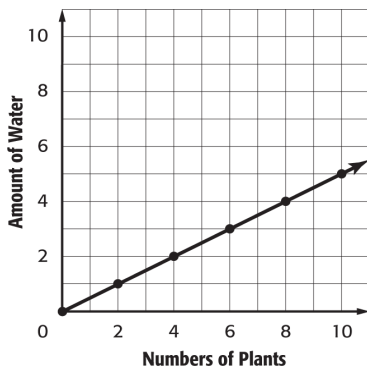
Name _____ Class _____

Show all work and label all answers or it will be marked wrong.

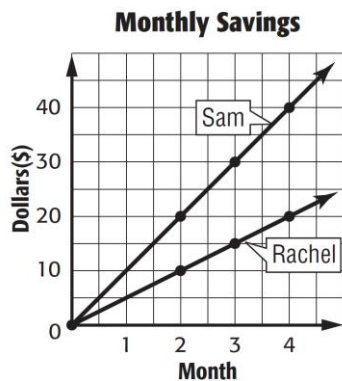
1. Which size bag of cat food shown in the table has the lowest unit price?

Size (oz.)	Cost (\$)
20	5.49
44	9.80
64	15.99

2. Does the graph show a proportional relationship? **Explain in words.**



3. The graph shows the savings of Rachel and Sam. What does the Constant of Proportionality of each line represent?



A grocery store sells Brand A for 6 cans of peaches for \$5, Brand B for 20 cans of peaches for \$14, and Brand C 27 cans of peaches for \$19. Use this situation for Question 4 and Question 5

4. Is the cost of the relationships proportional (k) to the number sold? Show work for each situation and Explain in words.

Brand A to Brand B →

Brand B to Brand C →

Brand C to Brand A →

5. If there are any relationships in the question above that are not proportional, what can be done to make all 3 relationships proportional (k) to each other?

6. Cyclists were $\frac{2}{5}$ finished with their ride when they reached the 20-kilometer mark. How long was their ride? Show your work.

Solve each proportion. Show your work and check using cross products.

$$7. \frac{m}{2.64} = \frac{10}{2.4}$$

$$8. \frac{17}{50} = \frac{x}{25}$$

$$9. \frac{8.85}{v} = \frac{7.02}{9}$$

$$10. \frac{0.5}{0.25} = \frac{8}{y}$$

11. Find the rate of change from the table. Is this a proportional relationship? EXPLAIN. Show all work.

Hours	Temperature (°)
4	75
8	80
12	85

12. If it takes the Ramirez family 4 days to travel 1,560 miles, how many days will it take them to travel 3,640 miles?

13. Explain how can you determine if a relationship is proportional (is a direct variation) from **a graph**? Include in your explanation an example or a non-example.

14. Explain how can you determine if a relationship is proportional (is a direct variation) from **an equation**? Include in your explanation an example or a non-example.

15. Explain how can you determine if a relationship is proportional (is a direct variation) from **a table**? Include in your explanation an example or a non-example.

16. Jaime and Ryan work at the grocery store. The wages earned for the weekend are shown in the table and graph. Who gets paid more per hour? Show your work and Explain your reasoning.

Jaime's Wages	
Time (h)	Wages (\$)
3	18
4	24
5	30

