Name_____ Period_____ Score_____/_____

SAGE/Term 4 REVIEW – Ratios and Proportions

Find each rate. (Remember to label your units)

1. For three people, there are 5 candy bars. What is the unit rate for the number of candy bars for 1 person?
   _____
2. In 12 ½ minutes, Cheyenne read 50 pages.
   a. How many pages did she read per minute? _____
   b. How many minutes does it take to read one page? _____
3. Aubrey's heart rate was measured at 19 beats in ¼ minute. How many beats per minute? _____

Use the tables to identify the proportional constants (unit rates). Then use the unit rate to answer additional information.

4.

Cups of flour	2	4	6	8	10
Number of Cookies	12	24	36	48	60

   a. What is the unit rate of cups of flour per cookie? _____
   b. How many cups of flour would be used for 20 cookies? _____
   c. What is the unit rate of cookies per cups of flour? _____
   d. How many cookies could be made with 5 cups of flour? _____

5.

Inches of snowfall	1	2	3	4	5
Hours	$\frac{1}{2}$	1	$\frac{3}{2}$	2	$\frac{5}{2}$

   a. What is the unit rate of inches per hour? _____
   b. At this rate, how many inches of snow would have fallen in 2 1/3 hours? _____
   c. What is the unit rate of hours per inch? _____
   d. At this rate, if there is 7 ½ inches of snow, how long has it been snowing? _____

6. After two hours of driving, Mr. Sackett had travelled 150 miles. After 4 hours of driving, he had travelled 300 miles.
   a. Is Mr. Sackett's driving proportional for these two times?_____ How can you tell?

   b. If the times are proportional, write an equation that represents his miles traveled, *m*, after *h* hours. If it isn't proportional write N/A.
   _____
7. Is the following table proportional? If so write an equation that could represent this situation, if not explain why this table isn't showing a proportional relationship.

Inches of snowfall	1	2	3	4	5
Hours	$\frac{1}{2}$	1	$\frac{3}{2}$	2	$\frac{5}{2}$

Determine if the equations below represent proportional relationships. If they do, identify the unit rate or constant of proportionality. If not explain why they are not proportional.

8. $y = \frac{2}{3}x$

9. $y = \frac{5}{6}x + 2$

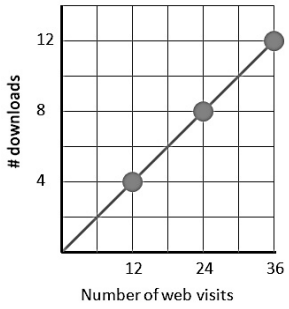
Does the table below represent a proportional relationship? If so, write an equation for it, if not explain why not.

10.

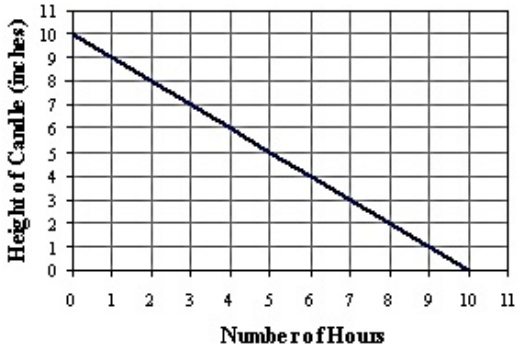
Time in parking lot (hours)	Cost ($)
1	7
2	9
3	11
4	13
5	15

Determine if the graphs below represent proportional relationships. If they do, identify the unit rate or constant of proportionality and write an equation for it. If not explain why they are not proportional.

11.



12.



Solve the following proportional equations using any method except cross multiplication. Show your work!

13. $\frac{2}{5} = \frac{x}{5}$ **14.** $\frac{x}{9} = \frac{6}{27}$ **15.** $\frac{5}{10} = \frac{1}{x}$ **16.** $\frac{9}{16} = \frac{x+2}{4}$

Solve the following problems. Show your work and write your answers in full sentences!

17. If a pair of shorts that normally costs $45.80 is on sale for 20% off, what is the new price of the shorts?

18. You go to eat out and your meal after tax costs $30.60. If you give your waiter a 15% tip, how much money total will you be spending?

19. You spent $20 on a pack of tech decks. You want to sell this pack to your friends at a mark-up value of 25%. How much do you want to get for your tech deck set?

20. Last month Colby made 88 Instagram posts. This month he has made 150% more posts than last month. How many Instagram posts has Colby made this month?

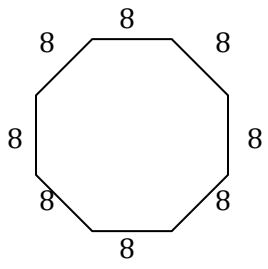
21. Mrs. McBride is watching prices on running strollers. Last week she found a $240 stroller on sale for 25% off. She predicts that in one month the price will go down by another 40%. If this happens, how much will the stroller cost in one month?

22. Savanna is shopping at Urban Wear since they are having a sale where everything is 40% off. She found a dress she likes that normally costs $34. How much will she pay for this dress if tax is 6.5%?

Find the scale factor between the two figures below. The figures are similar.

23.

Original



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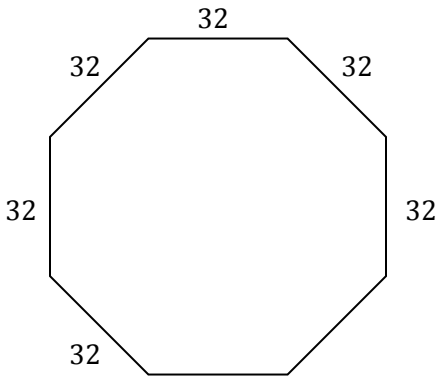
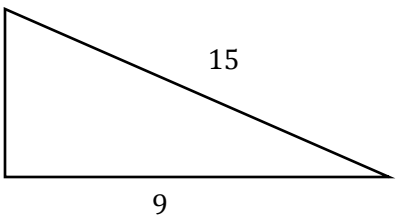


Scale Factor:

24.

Original



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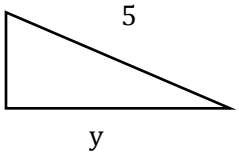

Scale factor_____

y = _____