

Math 6 Practice Test: Ratios and Proportional Relationships

Name:

Date:

1. Define each of the following terms:

a. *ratio* and give an example.

b. *unit rate* and give an example.

c. *proportion* and give an example.

2. Write the ratio of circles to total figures for the graphic given. Simplify if necessary.



3. Over an 8 day period, a local fire station raised \$40,000. Write a simplified ratio and explain the meaning of the rate in this event.

4. A hummingbird flies an average of 25 miles in 60 minutes. Write a ratio of miles to minutes and name 3 more equivalent ratios.

5. Which ratio is NOT equivalent to $\frac{4}{12}$?

A. $\frac{8}{24}$

B. $\frac{12}{48}$

C. $\frac{1}{3}$

D. $\frac{2}{6}$

6. Figure 1 shows a ratio of shaded to unshaded boxes.

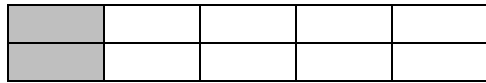
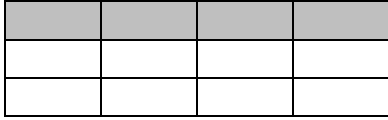


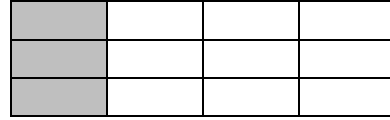
Figure 1

Which diagram below shows the same ratio of shaded to unshaded boxes?

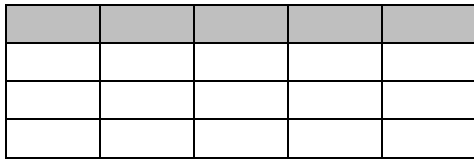
A.



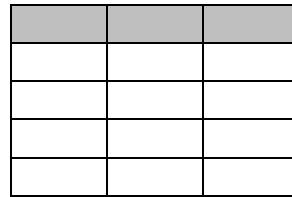
C.



B.



D.



7. On a bicycle you can travel 20 miles in 5 hours. Draw models to show **both** unit rates in this situation.

8. If a person walks $\frac{1}{3}$ mile in each $\frac{1}{6}$ hour, find the unit rates **using a double number line** diagram.

9. Due to Earth's rotation, a point on the equator travels about 40,000 km every 24 hours. What is the Earth's average speed at this point?

10. Anna's recipe for a fruit punch calls for 3 cups of cranberry juice to 2 cups of lemon-lime soda. Use the table below to show how many cups of lemon-lime soda will be needed to mix with 24 cups of cranberry juice?

<i># of cups of cranberry juice</i>	3								24
<i># of cups of lemon-lime soda</i>	2								

For problems 11 – 13, find the missing value in each proportion.

11. $\frac{4}{5} = \frac{n}{25}$

12. $\frac{2}{4} = \frac{x}{10}$

13. $\frac{6}{x} = \frac{12}{14}$

14. Is $\frac{4}{5} = \frac{6}{7}$ a proportion? Explain how you know.

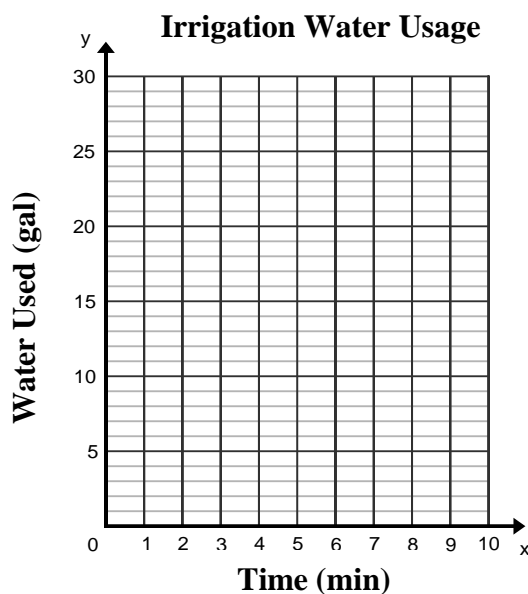
15. Complete the information in the table below.

x	4	8	12	20		92
y	9	18	27		117	

16. Tim’s cat eats 14 pounds of cat food in 20 days. How long will it take Tim’s cat to eat a 35 pound bag of cat food? Explain your thinking.

17. An irrigation system for a garden uses 3 gallons of water per minute. Complete the table below and plot the values on the graph provided.

Time (minutes)	Water Used (gallons)
1	
2	
3	
5	
7	
10	



18. Quick Mart stocks bar soap in packages of 8 and packages of 10. Complete the table below to determine which is a better buy? What is the price per bar of the better deal?

8 pack	
#of bars	Price (\$)
8	\$8.68

10 pack	
#of bars	Price (\$)
10	\$10.88

19. If it took 9 hours to paint 5 walls, then at that rate, how many walls could be painted in 45 hours? At what rate were walls painted?
20. Each week a store places coupons in four different newspapers. The table below shows the number of coupons from each newspaper that were used by store customers on Wednesday and Thursday.

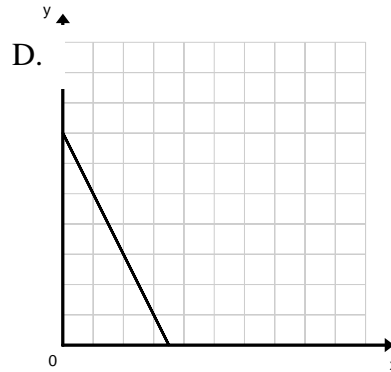
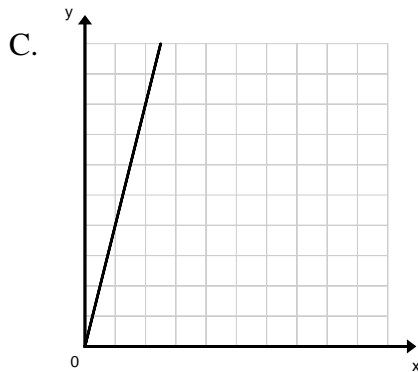
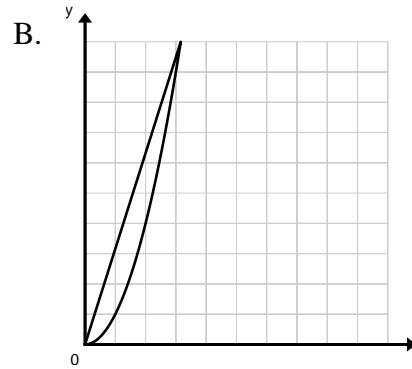
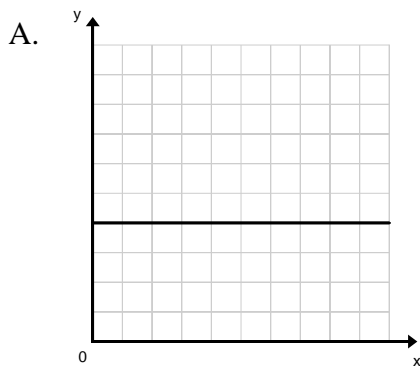
Coupon Use

Newspaper	# of Coupons
Vegas Daily News	12
The News in Review	10
Las Vegas Today	18
Vegas Journal	20

On Friday, store customers use 42 coupons from the four newspapers. Based on the information shown in the table, how many of the 42 coupons are likely to be from the Vegas Journal newspaper? Show your work.

21. (OnCore) Golf balls come in a variety of packages. A particular brand of golf ball comes in a package of 3 golf balls and a package of 12 golf balls. The package with 3 golf balls costs \$3.36, and the package with 12 golf balls costs \$6.90. Which is the better deal? What is the unit price of the better deal? Show your work below.
- a. 3-ball pack at \$0.28 per golf ball c. 12-ball pack at \$0.58 per golf ball
 b. 12-ball pack at \$1.12 per golf ball d. 3-ball pack at \$0.58 per golf ball

22. Which graph could have been constructed from a table of equivalent ratios?



Long Term Memory Review

23. Simplify.

a. $.59 \overline{)4.2539}$

b. $\frac{7}{9} \div \frac{2}{3} =$

c. $-14 + 3(5 - 7)$

24. Graph the given set or rational numbers on the number line below. Be sure to label each point.

$\left\{ -4, \frac{-3}{2}, 0.57, -0.75, -2\frac{3}{4}, 4\frac{2}{3} \right\}$

