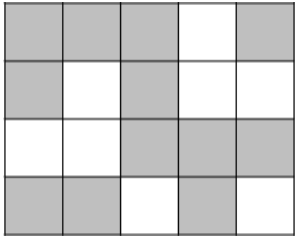


Name: _____

Unit 2 Study Guide

Date: _____ Per: _____

Proportional Relationships & Percents



1. Using the diagram to the left, write a ratio for the total number of squares to the number of unshaded squares in simplest form.

:

2. Amanda got 63 out of the 75 questions correct on her science test. Which ratio represents the number of questions she got incorrect to the number of questions she got correct?

- A. 4 to 21
- B. 4 to 25
- C. 21 to 4
- D. 25 to 4

3. There are 16 yellow, 8 pink, and 12 blue highlighters in a drawer. What is the ratio of yellow highlighters to the total number of highlighters? Write your answer as a fraction in simplest form.

4. A bag contains apples and oranges. The ratio of apples to oranges in the bag is 8 to 3. Which of the following statements could be true?

- A. There are exactly 20 apples and 6 oranges in the bag.
- B. There are exactly 32 apples and 15 oranges in the bag.
- C. There are exactly 16 apples and 12 oranges in the bag.
- D. There are exactly 24 apples and 9 oranges in the bag.

5. Fill in the box with a value that will make the ratios equivalent.

4 : and 32:72

6. There are 140 milligrams of caffeine in a 12-ounce cup of coffee. How many milligrams of caffeine are in 3 ounces of the same coffee?

- A. 30
- B. 35
- C. 40
- D. 45

7. Which ratios are equivalent? Check all that apply.

<input type="checkbox"/> $\frac{12}{16}, \frac{21}{28}$	<input type="checkbox"/> $\frac{3}{15}, \frac{21}{70}$	<input type="checkbox"/> $\frac{4}{6}, \frac{16}{28}$	<input type="checkbox"/> $\frac{20}{32}, \frac{15}{24}$	<input type="checkbox"/> $\frac{9}{27}, \frac{5}{15}$
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Fill in the missing values in the ratio tables below.

8.

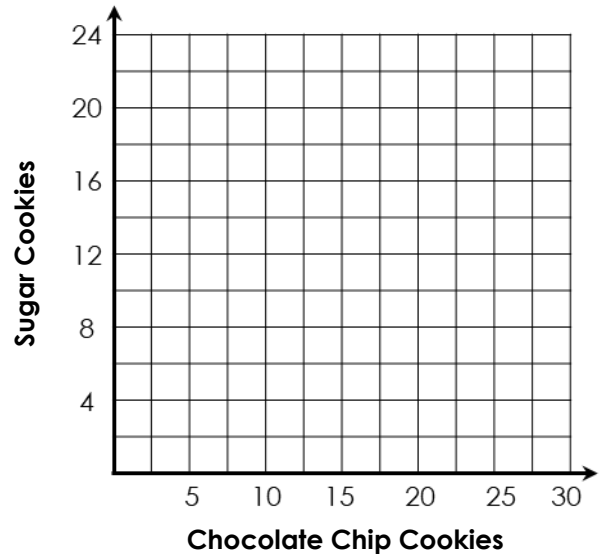
Tables	3	7	12
Guests	24		

9.

Seconds		12	60
Push-ups	7	21	

10. Mia sells 5 chocolate chip cookies for every 2 sugar cookies. Create a ratio table and graph to show this relationship.

Chocolate Chip Cookies	Sugar Cookies



11. A school has 34 teachers and 952 students. How many students per teacher are there?

- A. 26
- B. 28
- C. 32
- D. 38

12. A water dispenser filled a 24-ounce water bottle in 15 seconds. At what rate was the dispenser filling the bottle?

- A. 1.4 ounces per second
- B. 1.5 ounces per second
- C. 1.6 ounces per second
- D. 1.8 ounces per second

13. Finn needs 8 bags of mulch for his flower bed. If he can spend a maximum of \$30, what is the most he can pay per bag?

- A. \$3.25
- B. \$3.50
- C. \$3.75
- D. \$3.85

14. The prices of three bottles of ketchup are given below. Which bottle costs the least per ounce?

Bottle	Size	Price
A	25-oz	\$4.00
B	21-oz	\$3.15
C	16-oz	\$2.88

15. In which tables is the relationship between the quantities proportional?

Table A	
2	12
4	12
6	12
8	12

Table B	
1	4
2	3
3	2
4	1

Table C	
2	10
5	15
7	21
10	30

- A. Tables B and C
 B. Tables A and C
 C. Table B only
 D. Table C only

16. In which table is the constant of proportionality 4?

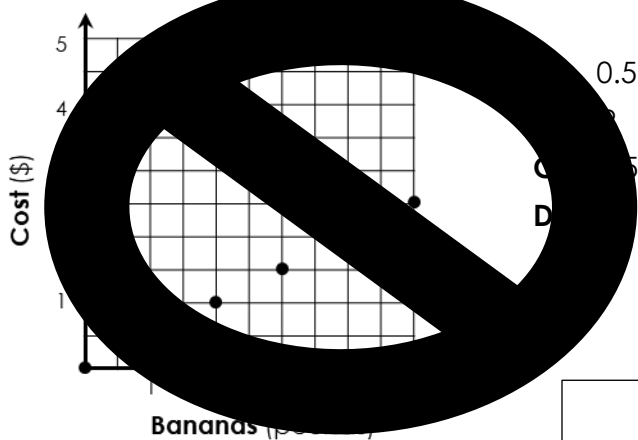
Table A	
2	3
6	8

Table B	
8	32

Table C	
1	2
4	4
4	4

Table D	
5	8

17. What is the constant of proportionality in the graph below?



If the two quantities in the table represent a proportional relationship, determine the missing value.

18.

Miles	4	15
Taxi Fare (\$)	10	?

- A. \$32.75
 B. \$34.50
 C. \$36.25
 D. \$37.50

19.

Minutes	?	30
Calories	200	240

- A. 20
 B. 24
 C. 25
 D. 28

20. A gas pump filled a 27-gallon tank in 6 minutes. How many minutes would it take to fill an 18-gallon tank?

- A. 3.5
 B. 4
 C. 4.5
 D. 4.8

21. A catering service charges per person. If it costs \$432 for a party of 48 people, how much will it cost for a party of 25 people?

- A. \$225
 B. \$230
 C. \$235
 D. \$240

22. Write the value below as a decimal.

135%

23. Which statement is true?

A. $\frac{7}{10} = 7\%$

B. $0.05 = \frac{1}{5}$

C. $1.8\% = 0.018$

D. $2.5 = 25\%$

24. Write the value below as a percent.

$$\frac{14}{25}$$

25. Write the value below as a percent.

$$\frac{28}{32}$$

26. Write the value below as a percent.

$$\frac{4}{3}$$

27. Marty has been late for work 6 out of the past 80 working days. What percent of the days has she been late?

28. Write the value below as a fraction in simplest form.

55%

29. Which fraction correctly represents 0.3%?

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

B. $\frac{3}{10}$

C. $\frac{3}{100}$

D. $\frac{3}{1000}$

30. Which values are less than 6%? Check all that apply.

<input type="checkbox"/> 4.5	<input type="checkbox"/> 0.008
<input type="checkbox"/> 0.0275	<input type="checkbox"/> 0.1
<input type="checkbox"/> $\frac{1}{20}$	<input type="checkbox"/> $\frac{3}{10}$

31. In order to go from least to greatest, which value could be placed in the box?

$$\frac{4}{5}, \boxed{?}, 90\%$$

- A. $\frac{19}{25}$ C. $\frac{5}{6}$
 B. 8.5 D. 0.085

32. Using the letters, order the list of values below from greatest to least.

A	B	C	D
$\frac{2}{25}$	60%	0.095	$\frac{1}{8}$

33. What is 35% of 60?

34. Tyler works 40 hours each week. If he has worked 72% of his usual work week, how many hours does he have left?

- A. 28.8 hours
 B. 27.2 hours
 C. 12.8 hours
 D. 11.2 hours

35. The finance charge on a credit card is 6% of the balance on the card at the end of the month. If Beth ends a month with a \$350 balance, what is the finance charge for the month?

- A. \$18
 B. \$21
 C. \$24
 D. \$28

36. A city in Virginia averages 42 inches of rain each year. In 2016, the amount of rainfall was 140% the average. How many inches of rain fell that year?

- A. 52.4 inches
 B. 54.8 inches
 C. 56.2 inches
 D. 58.8 inches