CC6 Name: _____ Date: _____

Period: _____

Review Sheet - Ratios, Rates, Proportions

Remember: Partial credit is granted only when work is shown and comprehensible.

1) In Krissy's collection, there are 15 action movies and 21 comedies. **What is the ratio of comedies to action movies in Krissy's collection?**

21 : 15

2) In Mrs. Nathan's class, there are 12 boys and 15 girls. **What is the ratio of girls to boys in Mrs. Nathan's class?**

15 : 12

3) Janet's mom bought holiday M&M's that are green and red. When Janet took a handful of them, she counted that of the 18 she picked up, 6 were red. **What is the ratio of red M&M's to green M&M's?**

18 TOTAL
6 RED
12 GREEN

6 : 12

4) **Find the unit rate (calories per cookie)** if 8 peanut butter cookies have 696 calories.

$\frac{696 \text{ CAL}}{8 \text{ PIECES}} = 87 \frac{\text{CAL}}{\text{COOKIE}}$

5) A compact car gets 135 miles per 5 gallons of gas. A midsize car gets 210 miles per 10 gallons of gas. **Which car gets better gas mileage?**

COMPACT: $\frac{135 \text{ m}}{5 \text{ g}} = 27 \text{ mpg}$

MIDSIZE: $\frac{210 \text{ m}}{10 \text{ g}} = 21 \text{ mpg}$

COMPACT

6) **Which is the better buy?** A 6-lb box of soap powder that costs $7.74 or an 8-lb box of the same powder that costs $10.48? Explain your reasoning.

6-lb box: $\frac{\$7.74}{6 \text{ LB}} = \$1.29$ PER LB

8-lb box: $\frac{\$10.48}{8 \text{ LB}} = \$1.31$ PER LB

Better Buy: 6-LB BOX BECAUSE IT IS $0.02 CHEAPER

7) **Which is the better buy?** A 5-lb bag of potatoes for $4.15 or an 8-lb bag of the same potatoes for $6.32?

5-lb bag: $\frac{\$4.15}{5 \text{ LB}} = \$0.83$ PER LB

8-lb bag: $\frac{\$6.32}{8 \text{ LB}} = \$0.79$ PER LB

Better Buy: 8 LB BAG

How much do you save per pound? $0.04

8) A recipe for lasagna calls for 3 pounds of tomatoes to serve 5 people. A caterer wants to make enough lasagna to serve 110 people. How many pounds of tomatoes does he need? Write a proportion and solve.

$\frac{3 \text{ LB}}{5 \text{ PPL}} = \frac{x}{110 \text{ PPL}}$ 66 POUNDS

9) A 12-pack of 8 ounce juice boxes costs $5.40. How much would an 18 pack of juice boxes cost? Write a proportion and solve.

$\frac{12 \text{ PACK}}{\$5.40} = \frac{18 \text{ PACK}}{\$x}$ $8.10

10) It takes you 11 minutes to walk 0.5 miles. How long will it take you to walk 2 miles? Write a proportion and solve.

$\frac{11 \text{ MIN}}{0.5 \text{ MI}} = \frac{x}{2 \text{ MI}}$ 44 MIN

11) Determine whether the ratios $\frac{18}{15}$ and $\frac{22}{16}$ are proportional.

$\frac{18}{15} \div 3 = \frac{6}{5}$ $\frac{22}{16} \div 2 = \frac{11}{8}$

NO

12) A recipe calls for 3 cups of oil to make 40 cookies. How many cups of oil are needed to make 12 cookies? Write a proportion and solve.

$\frac{3 \text{ cups}}{40 \text{ cookies}} = \frac{\quad}{12 \text{ cookies}}$ 1.9 CUPS

13) A machine takes 4.8 hours to make 14 parts. At that rate, how many parts can the machine make in 18 hours? Write a proportion and solve.

$\frac{4.8 \text{ hrs}}{14 \text{ parts}} = \frac{18 \text{ hrs}}{x \text{ parts}}$ 52.5 parts

14) Potatoes cost $4.20 for 3lbs. At that rate, how many pounds of potatoes can you buy for $9.10? Write a Proportion and Solve.

$\frac{4.20}{3} = \frac{9.10}{x}$ 6.5 LBS

15) In preparation for a brunch, a chef prepares 128 eggs and 72 strips of bacon. What is the ratio of eggs to strips of bacon?

A. For every 16 eggs, there are 9 strips of bacon.
B. For every 9 eggs, there are 16 strips of bacon.
C. For every 25 eggs, there are 16 strips of bacon.
D. For every 16 eggs, there are 25 strips of bacon

$\frac{128 E \div 8}{72 B \div 8} = \frac{16}{9}$

16) For Super bowl Sunday, 4 pizza places are offering special deals on their 16-inch pizzas. The deals are listed in the table.

Pizza Place	Number of Pizzas	Total Cost (tax included)	
Alfredo's	3	$26.97	→ 8.99
Giovanni's	4	$37.00	9.25
Luigi's	5	$45.75	→ 9.15
Mario's	6	$52.50	8.75

Which pizza place is offering customers the best price per pizza? MARIO'S

17) At Brady's Book Store, 4 paperback books cost $36. At this rate, how many books can be purchased with $63?

A. 6 books
B. 7 books
C. 8 books
D. 9 books

$\frac{4}{36} = \frac{x}{63}$ 7B

18) It took 28 minutes for a clothing factory to make 84 shirts. How long would it take for the clothing factory to make 252 shirts?

A. 31 minutes
B. 56 minutes
C. 72 minutes
D. 84 minutes

$\frac{28}{84} = \frac{84 \text{ min}}{252}$

19) On a map, every 0.5 cm represents 25 km. If London is 454 km away from Paris, about how far apart from each other do the cities appear on the map?

A. 9 cm
B. 18 cm
C. 908 cm
D. 22, 700 cm

$\frac{.5}{25} = \frac{x}{454}$ 9.08 cm

20) At the animal shelter, the ratio of dogs to cats is 3 to 2. If the shelter has 45 dogs and cats, how many are dogs?

A. 30 dogs
B. 27 dogs
C. 20 dogs
D. 18 dogs

3 : DOGS | x DOGS
2 : CATS
5 TOTAL | 45 TOTAL
3 : 5 | x : 45

$\frac{3}{5} = \frac{x}{45}$ 27 DOGS

21) Determine whether the ratios $\frac{36}{22}$ and $\frac{30}{19}$ are proportional

$\frac{36 \div 2}{22 \div 2} = \frac{18}{11}$

$\frac{30}{19}$ NO

22) Find the unit rate in fraction and word form if there are 8 ounces of soap in a bottle that costs $4.96.

$\frac{\$4.96}{8 \text{ oz}} = \frac{\$0.62}{1 \text{ oz}}$ $0.62 PER ONCE

23) Hilary paid $8 for 12 donuts. What is the approximate unit cost of each donut?

A. $1.50
B. $1.25
C. $0.75
D. $0.67

$\frac{\$8}{12 D} = \frac{x}{1 D}$ $0.666 = \$0.67$

24) In a group of 20 students, there are 7 boys.

What is the ratio of girls to boys?

A. 13:20
B. 13:7
C. 7:20
D. 7:13

7 BOYS
13 GIRLS
20 STUDENTS

13 : 7
G : B

25) Hal compared the number of black marbles he had to the number of white marbles he had.

6 WHITE / 9 BLACK = 2W / 3B

Which statement correctly describes Hal's marbles?

A. For every 1 white marble, Hal has 3 black marbles.
B. For every 3 white marbles, Hal has 1 black marble.
C. For every 3 white marbles, Hal has 2 black marbles.
D. For every 2 white marbles, Hal has 3 black marbles.

26) A recipe calls for 2 tablespoons of butter for every 3 ounces of flour.
At this rate, how many tablespoons of butter are needed if 12 ounces of flour are used?

A. 4
B. 8
C. 11
D. 18

$\frac{2 \text{ TB}}{3 \text{ oz}} = \frac{x}{12 \text{ oz}}$

8 TB