

Name: _____

Date: _____

Comparing & Scaling Review Sheet - Intro

Short Answer

1. Donuts4U has donuts on sale at 12 for \$5.40. Use division to find unit rates that answer the following questions:

- a. What is the cost per donut? 0.45
 b. How many donuts can you buy for a dollar? 2

$$\frac{5.40}{12} = \frac{7}{1} \quad 0.45$$

$$\frac{5.40}{12} = \frac{1}{2} \quad 2.2$$

2. The school store sells pencils at 24 for \$3.00.

- a. What are the two unit rates that she might compare?
 b. Compute each unit rate and tell what it means.

per pen \$
\$ per pen

$$\frac{3.00}{24} = \frac{1}{8} \quad 0.125$$

$$\frac{3.00}{24} = \frac{1}{8} \quad 8 \text{ pencils per } \$1$$

Use the following data about Lincoln Middle School.

Lincoln Middle School Enrollment: 623 students Ratio of girls to boys: 2 to 3

$$\frac{2}{5} = \frac{x}{623} \quad 0.13$$

3. How many girls are enrolled in Lincoln Middle School? 249

4. Suppose there is one teacher on staff for every 25 students enrolled. Estimate the number of teachers at Lincoln Middle School.

$$\frac{1}{25} = \frac{x}{623} \quad x = 25$$

5. Which offer is the better buy?

2-liter bottles of Orange Splash!
 $\frac{4.99}{8L} = \frac{x}{1L} \quad \4.99 per 4-pack
 0.62

1/2-liter bottles of Orange Splash!
 8 for \$1.99

$$\frac{1.99}{4L} = \frac{x}{1L} \quad 0.4975$$

6. Leticia is shopping for gifts. She compared prices at two stores so she could get the best deals. For each item, tell which store has the best price.

Gift Prices

Gift	Darren's Warehouse	U-Rule Department Store
handkerchiefs	package of 10 for \$11.00	package of 3 for \$3.75
greeting cards	package of 8 for \$9.99	package of 3 for \$5.49
ballpoint pens	one dozen for \$9.60	2 for \$1.59
audiocassette tapes	one dozen for \$13.20	5-pack for \$5.95

Unit prices
 1.10
 1.25
 1.50
 1.10
 1.25
 1.82
 1.795
 1.19

7. Brice found three recipes for blueberry syrup. Of the ingredients, the ingredients only differed on the amount of blueberries and sugar:

Classic Blueberry syrup: 8 cups blueberries and 2 cups sugar

Homestyle Blueberry syrup: 3 cups blueberries and 1/2 cup sugar

Country Blueberry syrup: 20 cups blueberries and 8 cups sugar

Which recipe will be the sweetest? Explain your reasoning.

4 blue to 1 sugar
 6 blue to 1 sugar
 20/8 blue to 1 sugar
 sweetest

8. At Louis Armstrong School, Ms. Turini's homeroom has 22 boys and 10 girls. Use ratios to describe the gender distribution of this class, by answering the following questions in at least two equivalent ways.

- a. What is the ratio of boys to girls in Ms. Turini's homeroom? 11 to 5
- b. What is the ratio of girls to boys? 5 to 11
- c. What is the ratio of boys to students in the class? 22 to $32 \rightarrow 11$ to 16
- d. What is the ratio of students in the class to boys? 32 to $22 \rightarrow 16$ to 11

9. Josh jogs an average of 8 miles per week for three weeks.

- a. At this rate, how many miles will he jog in 52 weeks? $\frac{24 \text{ mi}}{3 \text{ w}} = \frac{x}{52 \text{ w}}$ $x = 416$
- b. How many miles will he need to jog during the fourth week to bring his four-week average to 10 miles per week? 16 miles , $\frac{8 \text{ mi}}{1 \text{ w}} = \frac{x}{4 \text{ w}}$, $\frac{24 \text{ mi}}{3 \text{ weeks}} \rightarrow \frac{40}{4 \text{ weeks}}$

10. The fair train ride covered a distance of 3 miles in 20 minutes.

- a. What was the speed for the ride in miles per minute? $\frac{3 \text{ miles}}{20 \text{ min}} = \frac{1 \text{ mi}}{x}$, $3 = 20x$, $\frac{3 \text{ miles}}{20 \text{ min}} = \frac{x}{1}$
- b. What is the speed for the ride in miles per hour? 9 miles , $\frac{3 \text{ miles}}{20 \text{ min}} = \frac{x}{60 \text{ min}}$, $\frac{3 = 20x}{20} \rightarrow \frac{3}{20} = x$, $\frac{3}{20} = x$, $3 = 20x$, $x = \frac{3}{20}$, $x = 0.15$ mile
- c. Write an equation you can use to determine how long it would take the train to cover any distance if it traveled at this same speed. $d = rt$
- d. How far would the train travel in 45 minutes? 6.75 miles , $\frac{3 \text{ miles}}{20 \text{ min}} = \frac{x}{45 \text{ min}}$

11. There are 64 pretzels in a 16-ounce bag of chocolate covered pretzels.

- a. Write and solve a proportion that you can use to find the number of chocolate covered pretzels in a 5-ounce bag. $\frac{64}{16} = \frac{x}{5}$
- b. What is the number of chocolate covered pretzels per ounce? $20 \text{ pretzels per } 5 \text{ oz}$, $4 \text{ to } 1 \text{ oz}$
- c. How many ounces does each pretzel weigh? $\frac{4 \text{ pretzels}}{1 \text{ oz}} = \frac{1 \text{ pretzel}}{x}$, 25 oz

12. Kelsey made \$156.00 in two weeks at her job with the traveling carnival.

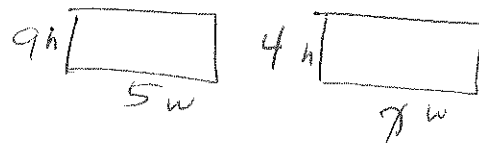
- a. At that rate, how much would she make in a 52-week year? $\frac{156}{2} = \frac{x}{52 \text{ w}}$ $x = 4056.00$
- b. Kelsey works 12 hours per week. How much does she make per hour? $\frac{78}{12 \text{ hrs}} = 6.50$

c. Kelsey is saving to buy a used car that will cost \$2200.00. How many weeks will she have to work to save enough money to buy the car?

$$\frac{78}{1 \text{ week}} = \frac{2200}{x}$$

28.21
or 29 weeks

13. There are two doorways into the fun house. The doors are similar rectangles. The tall door is 9 feet high and 5 feet wide. The short door is 4 feet high. How wide is the short door?



Comparing & Scaling Review Sheet - Intro Answer Section

SHORT ANSWER

1. a. \$0.45 per donut
 b. about 2.2 donuts, or 2 since you cannot cut them up in the store, for \$1
2. a. pencils per dollar; dollar amount per pencil
 b. 8 pencils for \$1 tells you how many pencils you could buy with \$1; \$0.13 per pencil tells you how much each pencil costs

$$\frac{9}{5} = \frac{4}{x}$$

$$x = \frac{20}{9} A$$

3. Since 2 out of 5 students are girls, the school has $\frac{2}{5} \times 623 =$ about 249 girls.

4. $\frac{623}{25} = 25$ teachers

5. The 2-L bottles are $\frac{8L}{\$4.99} = 1.6$ L/dollar, and the $\frac{1}{2}$ -L bottles are $\frac{4L}{\$1.99} = 2.0$

L/dollar, so the 8-pack of $\frac{1}{2}$ -L bottles is the better buy.

6. The table shows the unit price for each item at each store. Darren's has the best unit price on handkerchiefs, greeting cards, and audiocassette tapes; ballpoint pens cost essentially the same at the two stores. (Students may argue that pens are cheaper at U-Rule; a point that should be discussed is that the difference is negligible unless a large quantity is purchased.)

7. The sweetest is one with the highest percentage of sugar.
 $2/10 = 20\%$
 $0.5/3.5 = 14\%$
 $8/28 = 28.5\%$

The recipe with the least amount of blueberries per cup of sugar is the Country recipe.

8. a. 22:10 or 11:5
 b. 10:22 or 5:11
 c. 22:32 or 11:16
 d. 32:22 or 16:11

9. a. $8 \cdot 3 = 24$, so we can write a proportion to solve. $\frac{24}{3} = \frac{x}{52}$ $x = 416$ miles
 b. For Josh to have a four-week average of 10 miles per week, he will need to jog a total of 40 miles. Since he has jogged $3 \cdot 8 = 24$ miles for the first three weeks, Josh will need to jog $40 - 24 = 16$ miles during the fourth week.

10. a. $x = 36$ b. $x = 49.8$ c. $x = 351$
 d. $x = 36$ e. $x = 10.5$ f. $x = 3$