

Lesson 1: How Fast Can You Text?

Handout #1:

Name: _____ Date: _____

Part 1

Scenario #1: Statistics show that two out of three middle school students have a cell phone. According to this statistic, how many students in this class should have a cell phone? _____

Represent this information as a ratio: _____

Work space:

There are _____ students in this class. If 2 out of every 3 students have a cell phone, there are _____ students in this class have a cell phone.

Scenario #2: Maria said that she is able to use her cell phone to text 45 words in 15 seconds. How many words can she text in 1 second? _____

Work space:

Maria can text at a rate of 45 words in _____ seconds. At this rate, Maria's unit rate for texting would be _____ words per second.

Silent Think-Pair-Share

Scenario #3: José told Maria that he texts faster than she does. José can text 48 words in 12 seconds. Who do you think can text faster, José or Maria? Justify your answer.

My Answer and Justification

Check one:

- Maria texts faster.
- José texts faster.

Supporting work: **(Compare Jose's vs. Maria's rate)**

Justification: I think that _____
texts faster because

My Partner's Feedback and Justification

Check one:

- I agree
- I disagree

My partner thinks
that _____
texts faster.

Supporting work: **(Show why you agree / disagree)**

Justification: I (agree / disagree)
with my partner because

Part 2 – Practice applying and finding the unit rate.

1) Diana travelled 385 miles in 7 hours. What is her average speed in miles per hour?

Rate: **Unit Rate:**

$$\frac{385 \text{ miles}}{7 \text{ hours}} = \frac{\square \text{ miles}}{1 \text{ hour}}$$

Diana can travel 385 miles in _____ hours. At this rate, she can travel _____ mile per hour.

2) Is each of the following considered a unit rate? Explain why or why not.

- 60 calories per serving: Yes _____ or No _____

Explain: I believe that the rate 60 calories per serving IS / IS NOT
a unit rate because

- 300 miles in 5 hours: Yes _____ or No _____

Explain: I believe that the rate 300 miles in 5 hours IS / IS NOT
a unit rate because

Part 2 – Practice applying and finding the unit rate.

2) Is each of the following considered a unit rate? Explain why or why not.

- 5 packs of gum for \$1: Yes _____ or No _____

Explain: I believe that the rate 5 packs of gum for \$1 IS / IS NOT a unit rate because

- 17 heartbeats in 15 seconds: Yes _____ or No _____

Explain: I believe that the rate 17 heartbeats in 15 seconds IS / IS NOT a unit rate because

CONNECTION: I learned yesterday in science that when a "pulse" is taken, that it counts the number of _____ that occur per minute.

3) Charlie bought a $2\frac{1}{2}$ pound bag of oranges for \$3.75. What is the cost of one pound of oranges?

To find the unit rate per pound, I can multiply / divide the price of \$3.75 by _____ (the size of the bag of oranges). The price of one pound of oranges is \$____._____

4) Mrs. Sweets provided cookies for her class of 24 students. She purchased 72 cookies to make sure that each student receives the same number of cookies. Complete the table below to determine the number of cookies per student.

Moving left to right, the I can find the number of students in each column by multiplying / dividing by ____.

Number of cookies	72				
Number of students	24	12	6	2	1

5) Manuel worked 5 days a week, and 6 hours each day. That week he earned \$337.50. What was his hourly rate of pay?

Manuel worked a total of _____ hours to earn \$337.50. At this rate, he earned _____ per hour.

6) Use unit rate to determine which of the following is the best deal:

- A** \$4.08 for a 16-ounce box of cereal The price for Cereal A is \$ _____ per ounce
- B** \$4.50 for an 18-ounce box of cereal, The price for Cereal B is \$ _____ per ounce

Justification: Cereal _____ is the best deal because it costs less per _____.

Directions:

1. Read the following scenario.
2. Think-pair-share: Discuss whether the two groups are proportional.
3. Be ready to share with the whole class.

Scenario #1

Part 1

A survey was taken to find out which age group texted more while class is in session. The results show that in the group of 14-year-olds, 48 students out of 64 students texted. In the other age group, 15-year-olds, it was 72 students out of 96.

- Are these two groups proportional?
- Are these ratios proportional?

My Answer and Reasoning

I think that these two groups (ratios) are

- proportional
 not proportional

because

My Partner's Answer and Reasoning

My partner thinks that these two groups (ratios) are

- proportional
 not proportional

because

Part II – *Note-Taking*

Describe two different strategies used to determine whether the ratios are proportional.

Strategy #1:

A strategy to determine whether a ratio is proportional would be

Strategy #2:

A strategy to determine whether a ratio is proportional would be

USE WORDS FROM BELOW TO TALK ABOUT YOUR STRATEGIES:

Graph

Table

Line

Origin

Equivalent

Compare

Lowest Terms

Fraction

Reduce

Lesson 2: Missing a Text

Handout #2: Fraction and Cross-Product Strategies Worksheet

Name: _____ Date: _____

Part I

Directions: Use the *fraction strategy* to prove whether each pair of ratios are proportional or not.

A. *Proportional or not proportional?*

$$8:3 = 48:18$$

Show your work:

Rewrite **8:3** as a fraction -----

Rewrite **48:18** as a fraction -----

Are the fractions equivalent? YES NO

Describe your method (how you know they are proportional or not proportional)

B. *Proportional or not proportional?*

$$5:8 = 12:20$$

Show your work:

Rewrite **5:8** as a fraction -----

Rewrite **12:20** as a fraction -----

Are the fractions equivalent? YES NO

Describe your method (how you know they are proportional or not proportional)

Part II

Directions: Read the following scenarios. Find the missing value using the *cross-product strategy*.

Scenario #1

A cookie recipe says to use 3 cups of flour and 2 eggs. If you wanted to increase the recipe and use 9 cups of flour, what would the ratio of flour to eggs be?

What ratio is given in the first sentence?

There are _____ cups of flour to 2 _____.

In order to create a second ratio, what is given? What information is missing?

GIVEN: There are _____.

MISSING: What part of the ratio do you need? The missing part of the ratio is (*Read the last sentence*) _____.

Scenario #2

Anthony is typing a paper that is 390 words long. He can type 30 words per minute. How long will it take Anthony to type the paper?

What information do you already have?

Anthony can type _____ words per _____.

In order to create a second ratio, what is given? What information is missing?

GIVEN: Anthony's paper is going to be _____ pages long.

MISSING: What part of the ratio do you need? The missing part of the ratio is (*Read the last sentence*) _____.

Write the two fractions below:
Are they equivalent fractions?

Write the two fractions below:
Are they equivalent fractions?

Part III

Directions: Read Scenario #3 below and solve it. Explain your mathematical thinking using math terms (*ratio, proportion, per, product*).

Scenario #3

An automobile travels 176 miles on 8 gallons of gasoline. How far can it go on a tankful of gasoline if the tank holds 14 gallons?

Show your work.

Calculate the unit rate:

If an automobile can travel 176 miles on 8 gallons of gasoline, it can travel _____ miles per gallon.

How far can the automobile travel on 14 gallons?

If an automobile can travel _____ miles on 1 gallon of gasoline, it can travel a total of _____ miles on 14 gallons of gas.