



Name: _____

Date: _____

Use this guide to take notes as you work through the activity. Taking good notes can help you remember important ideas. Your notes on this guide will help you prepare for quizzes and tests.

Main idea: Proportional quantities as equal ratios

1. Complete the statements to describe ratios.

- A ratio is a _____ of two quantities.
- A ratio can be expressed as a _____ description, with a _____, or as a _____.

2. Complete the statement to describe proportions. Then decide if the two ratios in each row of the table are equal. If they are, write a proportion.

A proportion is an _____ stating that two ratios are equal.

Ratios	Equal?	Proportion
$\frac{12}{10}$ and $\frac{18}{15}$	Yes	
$\frac{14}{10}$ and $\frac{12}{8}$		
$\frac{5}{20}$ and $\frac{2}{8}$		

3. Complete the statements to describe proportional quantities.

- Proportional quantities are always in the same _____.

- The ratios $\frac{\$6}{4 \text{ slices of pizza}}$ and $\frac{\$3}{2 \text{ slices of pizza}}$ are part of a proportional relationship, because ____ = ____.

4. Write each pair of descriptions as ratios. Then place an X in the appropriate column to show whether the quantities of raisins and nuts are proportional.

Description	Relationship	Proportional	Not proportional
1 c. raisins to 2 c. nuts 3 c. raisins to 4 c. nuts	$\frac{1}{2} \neq \frac{3}{4}$		X
2 c. raisins to 3 c. nuts 4 c. raisins to 6 c. nuts			
8 c. raisins to 6 c. nuts 12 c. raisins to 9 c. nuts			

Main idea: Simplifying to test for equivalent ratios

5. Complete the steps to show how to determine if three pairs of quantities are proportional.

Write _____ for the pairs of values.



_____ the first two ratios.



_____ the first two ratios.



Simplify the _____ ratio.



_____ the third ratio with the first two.

6. Complete the table to show that the quantities are proportional.

Quantities	Ratios (as fractions)	Simplified ratios
5 apples and 2 pears	$\frac{5}{2}$	$\frac{5}{2}$
20 apples and 8 pears		
10 apples and 4 pears		

Main idea: Using cross products to test for equivalent ratios

7. Complete the statements to show how to use cross products to see if ratios are equivalent.

- A cross product is the product of the _____ term in one ratio and the second _____ in the other ratio.
- If cross products are _____, the ratios are equivalent.

8. Use cross products to answer the questions.

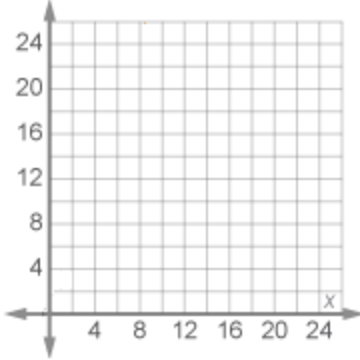
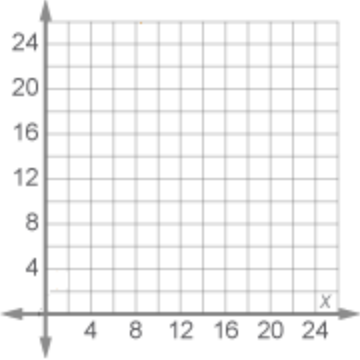
a. Show why $\frac{3}{4}$ is proportional to $\frac{9}{12}$.

Show why $\frac{5}{6}$ is *not* proportional to $\frac{10}{15}$.

Main idea: Graphing to determine proportionality

9. Describe how you can show that two quantities are proportional from a graph.

10. Draw a graph of quantities that are proportional and a graph of quantities that are not proportional.

Proportional	Not proportional
	

Key Terms

Use this table to write definitions for the key terms from this activity in your own words. If you're confident you know a term, put a check mark next to it and move on.

Key Term	Definition
proportion	
proportional quantities	
ratio	

If you noticed other unfamiliar terms in this activity, use the blank rows to list them and their definitions.

☐ *I have answered all the questions on the study guide and feel confident that I understand the main ideas of the sections. I'm ready to move on!*

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