Math6.org Activities for Ratios

Vocabulary Studies

___1) On-Line Word Search
___2) 3 Column Notes
___3) Flash Cards
___4) Crossword Puzzle
___5) Matching Practice
___6) Vocabulary Millionaire!

Tests and Games

___67) Ladders Millionaire
___68) Customary Length Millionaire
___69) Time Millionaire
___70) Measurements Millionaire
___71) Mid Chapter Quiz
___72) Quiz Bowl
___73) Practice Test
___74) Ratios Millionaire

Activities by Lesson

8.1 Ratios and Rates

___1) Review Worksheet
___2) Reading Ratios (GP)
___3) Unit Rates Lesson
___4) Unit Rates (GP)
___5) Best Deal (GP)
___6) Lesson Quiz
___7) **Shopping Spree

8.2 Proportions

___8) Review Worksheet
___9) Proportions (GP)
___10) Lesson Quiz
___11) **Extrapolations
___12) **Use Excel to Solve Proportions

8.3 Customary Measurements

___13) Review Worksheet
___14) Memorize the Measurements
___15) Ladders Cheat Sheet
___16) Memorize Customary Capacity Ladder
___17) Memorize Customary Length Ladder
___18) Memorize Customary Weight Ladder
___19) Memorize Time Ladder
___20) Ladders Millionaire

Using the Measurement Ladders

___21) Worksheet
___22) (GP)- Customary Capacity
___23) (GP)- Customary Length
___24) (GP)- Customary Weight
___25) (GP)- Time
___26) (GP)- Conversions

Measurements Quizzes

___27) Customary Capacity Quiz
___28) Customary Length Quiz
___29) Customary Weight Quiz
___30) Time Quiz
___31) Mixed Measurements Quiz
___32) Conversions Quiz
___33) Lesson Quiz
___34) **Measurement Conversions

****Measurement Millionaires**

___35) Ladders Millionaire
___36) Customary Length Millionaire
___37) Time Millionaire
___38) Measurements Millionaire

8.4 Similar Figures

___39) Review Worksheet
___40) Lesson Quiz
___41) **Illusion Fun
___42) **Similar Figures Jumble
___43) **Use Word to Draw Similar Figures

8.5 Indirect Measurements

___44) Review Worksheet
___45) Lesson Quiz
___46) **Use a Mirror

8.6 Scale Drawings and Maps

___47) Review Worksheet
___48) Lesson Quiz
___49) **Interior Decorating

8.7 Percents

___50) Review Worksheet
___51) Change Percents to Decimals (GP)
___52) Change Percents to Fractions (GP)
___53) Lesson Quiz
___54) **Format Fractions a Percents with Excel

8.8 Percents, Decimals and Fractions

___55) Review Worksheet
___56) Change Decimals to Percents (GP)
___57) Change Fractions to Percents (GP)
___58) Ordering Percents (GP)
___59) Lesson Quiz
___60) **Excel - Ordering Numbers

8.9 Percent Problems

___61) Review Worksheet
___62) Lesson Quiz
___63) **Constructing Circle Graphs

8.10 Using Percents

___64) Review Worksheet
___65) Tax Rates (GP)
___66) Calculating "Discounts" (GP)
___67) Lesson Quiz
___68) **Cost Busters

Name _____

Word List – 3 Column Notes

Word	Definition	Example
capacity	The metric measure for an amount a container can hold when full.	I drank a liter of water.
corresponding angles		
corresponding sides		
customary		
measurements		
discount		
equivalent ratios		
indirect measurement		
length		
mass		
percent		
proportion		
rate		
ratio		
sales tax		
scale		
scale drawing		
similar		
tip		
unit rate		
volume		
weight		

You will need to copy this onto **your own paper** to make proper 3 column notes.

Math Journal - Chapter 8 - Ratios, Proportions and Percents

8.01 Create a double bubble map to compare and contrast equivalent ratios and equivalent fractions. Write a paragraph to discuss your ideas.

8.02 The Math6.org extension for this lesson (8.2) will show you how to use Microsoft Excel to solve proportions. You should complete that activity. OR Create a flow map to show the sequence of steps for solving a proportion. Use your flow map to write a "how to" paragraph.

8.03 **There are 26 activities related to this lesson @ Math6.org. Complete 15 of them. OR Write a 3 paragraph opinion piece to discuss the value of measurement ladders. OR Write and produce a 30 second television public service commercial to encourage classmates to use measurement ladders to master measurement problems.

8.04 The Math6.org extension for this lesson (8.4) will show you how to create similar figures using Microsoft Word. You should complete that activity. OR Use a compass, protractor and ruler to draw and label an pair of similar triangles and a pair of similar rectangles. Write a short description (as a caption) for each drawing.

8.05 Complete the Indirect Measurement Challenge.

8.06 Use graph paper to help you create a scale map of your bedroom. Decide the scale first and start the drawing with the longest wall.

8.07 The Math6.org extension for this lesson (8.7) will show you how to format percents, decimals and fractions with Microsoft Excel. You should complete that activity. OR Choose any 3 percents from problems 15-20 on page 420. Model them on 10 x 10 grid paper as percents, fractions and decimals.

8.08 The Math6.org extension for this lesson (8.8) will show you how to format percents, decimals and fractions with Microsoft Excel. You should complete that activity. OR Write an opinion piece to discuss which presentation of a number helps you understand its value best. Do you prefer looking at fractions, decimals or percents? (include a poll and graph)

8.09 The Math6.org extension for this lesson (8.9) will show you how to create a proper circle graph using a compass, protractor and ruler. You should complete that activity. OR Create a 5 question quiz (with answer key) using real-world situations in which percents are used.

8.10 Create a puppet show (sock puppets are fine) to show either proper tipping amounts (a dime; 10% ; 15% ; 20%) or a scenario where a person is confused by discounts and is helped to understand the "percent on" concept.

Indirect Measurement Challenge

You and your team of investigators will use your math skills to determine the height of various "dangerous to measure" objects. Record your answers on this paper and turn it in to receive your grade.
goof-offs and their entire team will be required to cease working on the project and their papers will be graded as is – since we will be outside – there will be no warnings regarding misconduct

Name _____ ; _____ ; _____

Object	Height (m)	Height (feet)
Flag pole		
Soccer Goal		
Scoreboard		
Tree (next to gym)		
Annex building		
Tree (practice soccer field)		
Baseball Backstop		

Indirect Measurement Challenge

You and your team of investigators will use your math skills to determine the height of various "dangerous to measure" objects. Record your answers on this paper and turn it in to receive your grade.
goof-offs and their entire team will be required to cease working on the project and their papers will be graded as is – since we will be outside – there will be no warnings regarding misconduct

Name _____ ; _____ ; _____

Object	Height (m)	Height (feet)
Flag pole		
Soccer Goal		
Scoreboard		
Tree (next to gym)		
Annex building		
Tree (practice soccer field)		
Baseball Backstop		

Math Objectives

5.04

The student will be able to use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.

Instructor: _____ Time Frame: **80 minutes**
Subject: Math Grade 6 Date: _____

Ratios and Rates

Essential Question: Use a double bubble map to compare and contrast equivalent ratios with equivalent fractions. Which do you think is easier to solve? (Explain)

Objective (s) Numbers: **5.04**
Outcomes: The student will be able to use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.

Materials: Textbook pages 392-395
Anticipatory Set: Today we will learn to read and write ratios and rates. You will also learn how to find unit rates.

During the Lesson

Presentation of Information:
Integration of Other Subjects: Writing (compare / contrast)
Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Reading for information and interpretation.
Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Discuss, define and model vocabulary {ratio, equivalent ratios, rate, unit rate}

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice:
1. Have the students recognize ratios as "part to part", "part to whole" or "whole to part".
2. Review equivalent fractions and model the process of creating equivalent ratios and rates.
3. Model finding unit rate with division.

After the Lesson

Independent Practice
Text page 394 - 395 (1–3, 6–8, 14–15)
AIG: {3, 7, 14–18, 23}
Assign workbook page 8.1

Closure / Assessment: Create a double bubble map to compare and contrast equivalent ratios and equivalent fractions. Write a paragraph to discuss your ideas.

Reflection:

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **9** activities connected with this lesson
Reading Ratios Guided Practice
Unit Rates Lesson
Unit Rates Guided Practice
Best Deal Guided Practice
**Shopping Spree

Math Objectives

5.04

The student will be able to use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.

Instructor: _____ Time Frame: **80 minutes**
Subject: Math Grade 6 Date: _____

Proportions

Essential Question:	Take your answer from yesterday and use a double bubble map to compare and contrast it with proportions. Which do you think is the easiest to work with? (Explain)
Objective (s) Numbers:	**5.04**
Outcomes:	The student will be able to use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.
Materials:	Textbook pages 396-401; Problem Solving 8.2
Anticipatory Set:	Today we will learn to write and solve proportions.
Presentation of Information:	
Integration of Other Subjects:	Writing (how to) Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading:	Reading for information and interpretation.
Integration of Technology:	Computer, Projector, PowerPoint, Internet
Modeling:	Review a few Math Journal entries from yesterday. Discuss equivalent ratios and how they create proportions.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Use a 4x4 to model solving proportions as equivalent ratios using the "Stoney Method". {3/4 = n/16) ; {1/20 = n/15) ; {12/9 = n/3)

After the Lesson

Independent Practice	Text page 400 - 401 {1–4, 6–9, 11–17} **AIG**: {10-25} Assign workbook page 8.2 and Problem Solving 8.2
Closure / Assessment:	The Math6.org extension for this lesson (8.2) will show you how to use Microsoft Excel to solve proportions. You should complete that activity. OR Create a flow map to show the sequence of steps for solving a proportion. Use your flow map to write a "how to" paragraph.

Reflection:

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **7** activities connected with this lesson

Proportions Guided Practice
**Extrapolations
**Use Excel to Solve Proportions

Name _____ Date _____ Class _____

LESSON 8-2

Problem Solving

Proportions

Write the correct answer.

1. For most people, the ratio of the length of their head to their total height is 1:7. Use proportions to test your measurements and see if they match this ratio.

_____

_____

2. The ratio of an object's weight on Earth to its weight on the Moon is 6:1. The first person to walk on the Moon was Neil Armstrong. He weighed 165 pound on Earth. How much did he weigh on the Moon?

_____

3. It has been found that the distance from a person's eye to the end of the fingers of his outstretched hand is proportional to the distance between his eyes at a 10:1 ratio. If the distance between your eyes is 2.3 inches, what should the distance from your eye to your outstretched fingers be?

_____

4. Chemists write the formula of ordinary sugar as $C_{12}H_{22}O_{11}$, which means that the ratios of one molecule of sugar are always 12 carbon atoms to 22 hydrogen atoms to 11 oxygen atoms. If there are four sugar molecules, how many atoms of each element will there be in 4 molecules of sugar?

_____

_____

5. According to doctors, a healthy diet should follow the ratio for meat to vegetables of 2.5 servings to 4 servings. If you eat 7 servings of meat a week, how many servings of vegetables should you eat?

_____

6. A 150-pound person will burn 100 calories while sitting still for one hour. Following this ratio, how many calories will a 100-pound person burn while sitting still for one hour?

_____

Circle the letter of the correct answer.

7. Recently, 1 U.S. dollar was worth 1.58 in euros. If you exchanged $25 at that rate, how many euros would you get?

A 39.50 euros

B 15.82 euros

C 26.58 euros

D 23.42 euros

8. Recently, 1 United States dollar was worth 0.69 English pounds. If you exchanged 500 English pounds, how many dollars would you get?

F 345 U.S. dollars

G 725 U.S. dollars

H 500.69 U.S dollars

J 499.31 U.S. dollars

Math Objectives

5.04

The student will be able to use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.

Instructor: _____ Time Frame: **160 minutes**
Subject: Math Grade 6 Date: _____

Proportions and Customary Measurement

Essential Question: Many years ago, the nations of the world switched to the metric system and the United States is one of the last nations in the world that still uses the customary system of measurements. The USA thought about switching to the metric system, but has apparently abandoned the plan. Do you support the sovereign right of the USA to hold onto the customary system of measurement? (Explain)

Objective (s) Numbers: **5.04**
Outcomes: The student will be able to use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.

Materials: Textbook pages 402-404; 8.3 Practice B
Anticipatory Set: Today we will use proportions to make conversions within the customary measurement system.

During the Lesson

Presentation of Information:
Integration of Other Subjects: Writing (persuasion)
Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Reading for information and interpretation.
Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Measurement problems can often be made easier by turning them into proportions.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Use 8.3 Practice B to practice solving customary measurement problems as proportions.

After the Lesson

Independent Practice: Text page 403 - 404 {1–11, 13–17 odd}
AIG: {2, 4, 6–22}
Assign workbook page 8.3

Closure / Assessment: **There are 26 activities related to this lesson @ Math6.org. Complete 15 of them.
OR Write a 3 paragraph opinion piece to discuss the value of measurement ladders.
OR Write and produce a 30 second television public service commercial to encourage classmates to use measurement ladders to master measurement problems.

Reflection:

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **27** activities connected with this lesson
(see next page)

Related Math6.org Activities for Lesson 8.3

- Warm Ups
  - Vocabulary Matching
  - Quick Quiz
- Learning Center
  - Review Worksheet
  - Memorize the Measurements
    - Ladders Cheat Sheet
    - Memorize Customary Capacity Ladder
    - Memorize Customary Length Ladder
    - Memorize Customary Weight Ladder
    - Memorize Time Ladder
    - Ladders Millionaire
  - Using the Measurement Ladders
    - Worksheet
    - Guided Practice - Customary Capacity
    - Guided Practice - Customary Length
    - Guided Practice - Customary Weight
    - Guided Practice - Time
    - Guided Practice - Conversions
  - Measurements Quizzes
    - Customary Capacity Quiz
    - Customary Length Quiz
    - Customary Weight Quiz
    - Time Quiz
    - Mixed Measurements Quiz
    - Conversions Quiz
- Practice Center
  - Lesson Quiz
  - **Measurement Conversions
  - **Measurement Millionaires
  - Ladders Millionaire
    - Customary Length Millionaire
    - Time Millionaire
    - Measurements Millionaire

Name _____ Date _____ Class _____

LESSON 8-3

Practice B

Proportions and Customary Measurement

Find each missing value.

1. 3 yards = _____ inches

2. _____ yards = 87 feet

3. _____ cups = 104 fluid ounces

4. 2 years = _____ weeks

5. 4 pounds = _____ ounces

6. _____ hours = 2 days

7. _____ minutes = 9 hours

8. _____ gallons = 48 cups

9. _____ cups = 4 pints

10. 36 inches = _____ yards

Compare. Write <, >, or =.

11. 4 quarts ☐ 24 cups

12. 2.5 feet ☐ 32 inches

13. 250 seconds ☐ 4 minutes

14. 5 cups ☐ 40 fluid ounces

15. 56 ounces ☐ 3.5 pounds

16. 38 hours ☐ $1\frac{1}{2}$ days

17. 1.5 miles ☐ 2,500 yards

18. $3\frac{1}{2}$ tons ☐ 6,000 pounds

19. Cassandra drank $8\frac{1}{2}$ cups of water during the mountain hike. How many fluid ounces of water did she drink?

_____

20. Stan cut a wooden plank into 4 pieces. Each piece was 18 inches long. How long was the plank before Stan cut it?

_____

Math Objectives

5.04

The student will be able to use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.

Instructor: _____ Time Frame: **80 minutes**
Subject: Math Grade 6 Date: _____

Similar Figures

Essential Question: Consider similar and congruent figures. Use a double bubble map to compare and contrast their properties and the methods by which they are determined (solved). Obviously, congruent figures are easier to work with, while similar figures are more interesting. Assuming this statement is true, would you rather complete a congruent figures worksheet or a worksheet with similar figures problems? (Explain)

Objective (s) Numbers: **5.04**
Outcomes: The student will be able to use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.

Materials: Textbook pages 405-408; 8.4 Practice A; Problem Solving Worksheet 8.4
Anticipatory Set: Today we will apply proportions to similar figures.

During the Lesson

Presentation of Information:
Integration of Other Subjects: Writing (descriptive, summative)
Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Reading for information and interpretation.
Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Two or more figures are similar if they have exactly the same shape. The figures will be proportional in both angles and sides.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Use 8.4 - Practice A as a guided practice for this skill.

After the Lesson

Independent Practice: Text page 407 - 408 {1–8} and Problem Solving Worksheet 8.4
AIG: {7-14} and Problem Solving Worksheet 8.4
Assign workbook page 8.4

Closure / Assessment: The Math6.org extension for this lesson (8.4) will show you how to create similar figures using Microsoft Word. You should complete that activity. OR Use a compass, protractor and ruler to draw and label an pair of similar triangles and a pair of similar rectangles. Write a short description (as a caption) for each drawing.

Reflection:

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **7** activities connected with this lesson
**Illusion Fun
**Similar Figures Jumble
**Use Word to Draw Similar Figures

Name _____ Date _____ Class _____

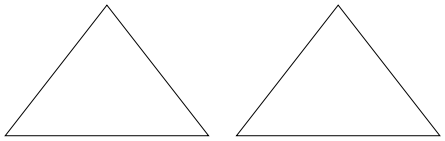
LESSON 8-4

Practice A

Similar Figures

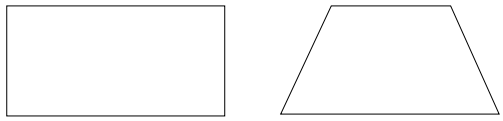
Tell whether the figures in each pair are similar.

1.



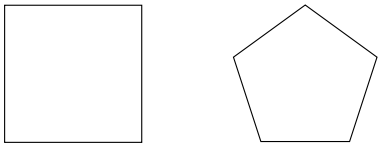
_____

2.



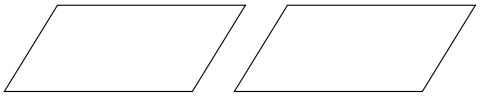
_____

3.



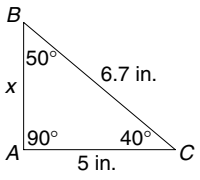
_____

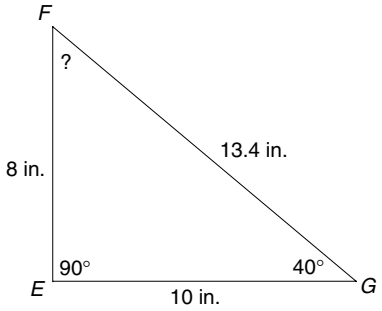
4.



_____

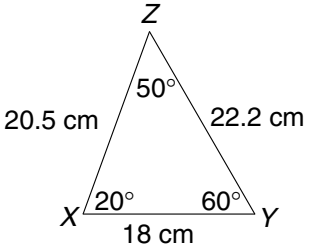
5. The two triangles are similar. Find the missing length x and the measure of $\angle F$.

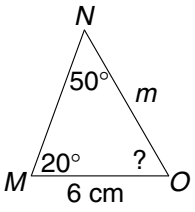




_____

6. The two triangles are similar. Find the missing length m and the measure of $\angle O$.





_____

7. Two rectangular photos are similar. The larger photo is 6 inches wide and 8 inches long. The smaller photo is 3 inches wide. What is the smaller photo's length?

_____

8. Two triangular mirrors are similar. The first mirror's angles all measure 60°. What are the measures of the second mirror's angles? Explain how you know.

_____

Name _____ Date _____ Class _____

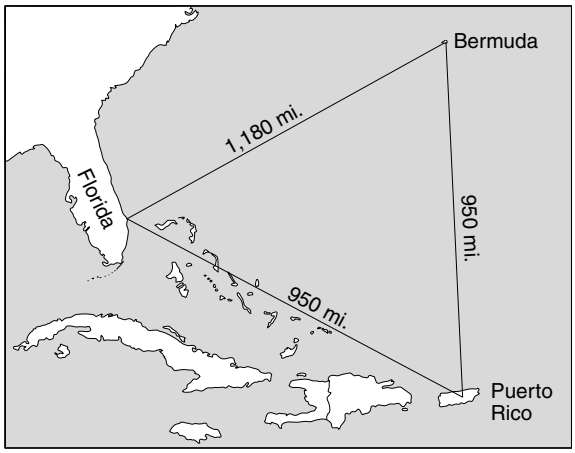
LESSON 8-4

Problem Solving

Similar Figures

Write the correct answer.

1. The map at right shows the dimensions of the Bermuda Triangle, a region of the Atlantic Ocean where many ships and airplanes have disappeared. If a theme park makes a swimming pool in a similar figure, and the longest side of the pool is 0.5 mile long, about how long would the other sides of the pool have to be?



_____

2. Completed in 1883, *The Battle of Gettysburg* is one of the largest paintings in the world. It is 410 feet long and 70 feet tall. A museum shop sells a print of the painting that is similar to the original. The print is 2.05 feet long. How tall is the print?

_____

3. *Panorama of the Mississippi* was the largest painting ever created in the United States. It was 12 feet tall and 5,000 feet long! If you wanted to make a copy similar to the original that was 2 feet tall, how many feet long would the copy have to be?

_____

4. Two tables shaped like triangles are similar. The measure of one of the larger table's angles is 38°, and another angle is half that size. What are the measures of all the angles in the smaller table?

_____

_____

5. Two rectangular gardens are similar. The area of the larger garden is 8.28 m^2, and its length is 6.9 m. The smaller garden is 0.6 m wide. What is the smaller garden's length and area?

_____

_____

Circle the letter of the correct answer.

6. Which of the following is not always true if two figures are similar?

A They have the same shape.

B They have the same size.

C Their corresponding sides have proportional lengths.

D Their corresponding angles are congruent.

7. Which of the following figures are always similar?

F two rectangles

G two triangles

H two squares

J two pentagons

Math Objectives

5.04

The student will be able to use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.

Instructor: _____ Time Frame: **80 minutes**
Subject: Math Grade 6 Date: _____

Indirect Measurement

Essential Question: Today you learned how to use the sun, shadows and similar triangles to determine the height of very tall objects. Can you come up with a plan that will enable people to use indirect measurements when the sun is not shining?

Objective (s) Numbers: **5.04**
Outcomes: The student will be able to use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.

Materials: Textbook pages 409-411; Indirect Measurement Challenge
Anticipatory Set: Today we will learn to use similar triangles and proportions to find unknown measures.

During the Lesson

Presentation of Information:
Integration of Other Subjects: Writing (compare/contrast)
Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Reading for information and interpretation.
Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: When objects are too tall to be measured, they can be measured using similar triangles, shadows and mirrors. We call this indirect measurement.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Model using similar triangles and proportions to find the heights of flag poles, lamp posts and trees. (page 411)

After the Lesson

Independent Practice: Text page 410 - 411 {1–7}
AIG: {3–9}
Assign workbook page 8.5

Closure / Assessment: Complete the Indirect Measurement Challenge.
Reflection:

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **5** activities connected with this lesson
**Use a Mirror

Indirect Measurement Challenge

You and your team of investigators will use your math skills to determine the height of various "dangerous to measure" objects. Record your answers on this paper and turn it in to receive your grade.
goof-offs and their entire team will be required to cease working on the project and their papers will be graded as is – since we will be outside – there will be no warnings regarding misconduct

Name _____ ; _____ ; _____

Object	Height (m)	Height (feet)
Flag pole		
Soccer Goal		
Scoreboard		
Tree (next to gym)		
Annex building		
Tree (practice soccer field)		
Baseball Backstop		

Indirect Measurement Challenge

You and your team of investigators will use your math skills to determine the height of various "dangerous to measure" objects. Record your answers on this paper and turn it in to receive your grade.
goof-offs and their entire team will be required to cease working on the project and their papers will be graded as is – since we will be outside – there will be no warnings regarding misconduct

Name _____ ; _____ ; _____

Object	Height (m)	Height (feet)
Flag pole		
Soccer Goal		
Scoreboard		
Tree (next to gym)		
Annex building		
Tree (practice soccer field)		
Baseball Backstop		

Carlos (whom everyone agrees is 4.5 ft tall) and Randy are arguing about who is the taller. They have done the back to back thing and the measuring with hands. They were planning to fight about it when Rachel suggested they ask the teacher. The teacher told them to measure their shadows in the early morning when the difference would be the greatest. Carlos' shadow is 8.1 ft long and Randy's shadow was 8.325 ft long.

1. In terms of the **nearest half an <u>inch</u>** how much taller than Randy is Carlos?

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Math Objectives

5.04

The student will be able to use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.

Instructor: _____ Time Frame: **80 minutes**
Subject: Math Grade 6 Date: _____

Scale Drawings and Maps

Essential Question: In the old days, maps were extremely expensive and dangerous (people died exploring) to make. (Consider the map Christopher Columbus didn't have when he left Portugal in 1492.) Map makers protected their copyrights by making a specific error on the map so that if someone plagiarized it (copied it) they would be caught. Math is a science of being exactly right and I am wondering, would you protect your map by making a mistake or would you make your map perfectly and let the chips fall where they may? (Explain)

Objective (s) Numbers: **5.04**
Outcomes: The student will be able to use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.

Materials: Textbook pages 412-417; Graph Paper (for journal)
Anticipatory Set: Today we will learn to use scale drawings and maps.

During the Lesson

Presentation of Information:
Integration of Other Subjects: Geography (map skills)
Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Reading for information and interpretation.
Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: A scale is a ratio that compares to measures. You can set up and solve a proportion to easily find the actual value from the scale on a map or a model.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Model setting up proportions to find actual values from scale maps and models. {1 in:2 mi = 2 in: n mi) (1 in:3 light years = 3 in.: n light years) {1 in:4 ft = n in:5 ft)

After the Lesson

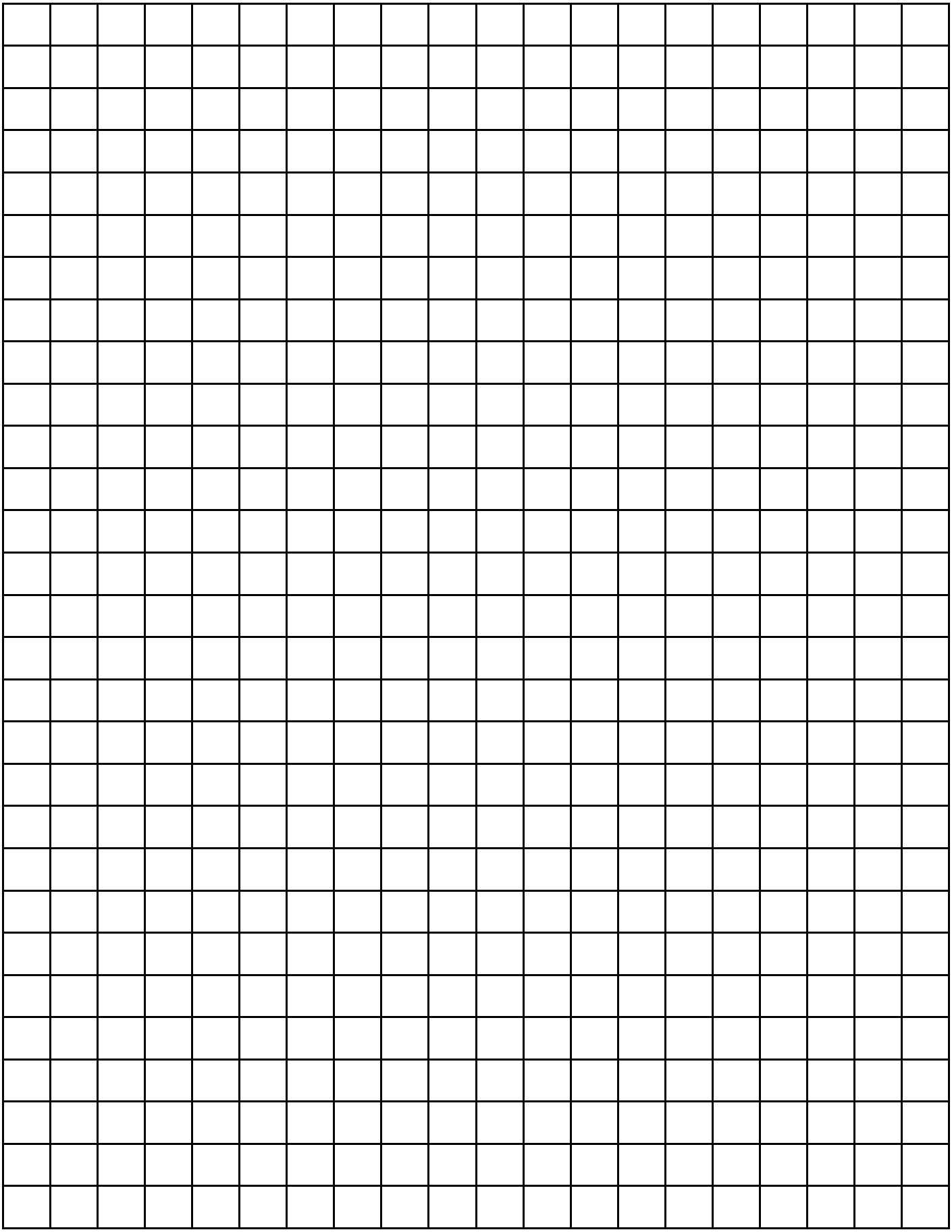
Independent Practice: Text page 414 - 415 {1–6, 13–16}
AIG: {7–12, 18, 19}
Assign workbook page 8.6

Closure / Assessment: Use graph paper to help you create a scale map of your bedroom. Decide the scale first and start the drawing with the longest wall.

Reflection:

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **5** activities connected with this lesson
**Interior Decorating



Math Objectives

1.03

The student will be able to compare and order rational numbers.

Instructor: _____ Time Frame: **80 minutes**
Subject: Math Grade 6 Date: _____

Percents

Essential Question: Over the next two days you will be studying how to turn percents into fractions and decimals and how to turn fractions and decimals into percents. After you have mastered these skills, I want you to answer the following: Is it easier to convert percents into fractions and decimals or would you rather convert fractions and decimals into percents. (Explain)

Objective (s) Numbers: **1.03**
Outcomes: The student will be able to compare and order rational numbers.

Materials: Textbook pages 418-421; 10 x 10 grid paper; Math6.org or its worksheets
Anticipatory Set: Today we will learn to change percents into decimals and fractions.

During the Lesson

Presentation of Information:
Integration of Other Subjects: Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Reading for information and interpretation.
Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Understanding how percents, fractions and decimals are related is a fundamental skill! We will ensure success by completing activities from Math6.org.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice:
1. Project and complete the Guided Practice - Change Percents to Decimals from Math6.org onto the screen.
2. Project and complete the Guided Practice - Change Percents to Fractions from Math6.org onto the screen.

After the Lesson

Independent Practice
Text page 420 - 421 {1–10, 12–27, 41}
AIG: {1–10, 29–48}
Assign workbook page 8.7

Closure / Assessment: The Math6.org extension for this lesson (8.7) will show you how to format percents, decimals and fractions with Microsoft Excel. You should complete that activity. OR Choose any 3 percents from problems 15-20 on page 420. Model them on 10 x 10 grid paper as percents, fractions and decimals.

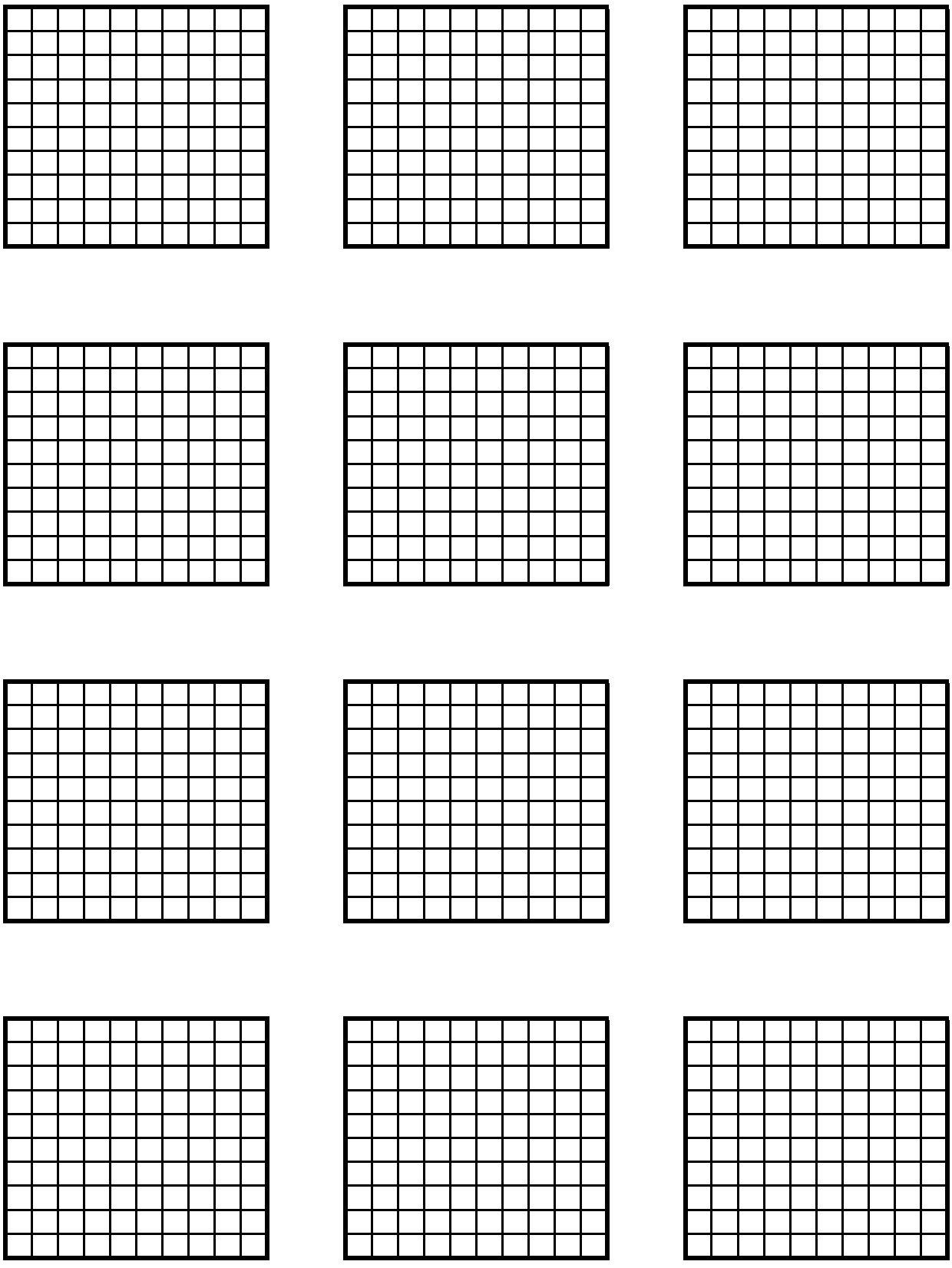
Reflection:

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **7** activities connected with this lesson

Change Percents to Decimals Guided Practice
Change Percents to Fractions Guided Practice
**Format Fractions a Percents with Excel

10 x 10 Grid Paper



Math Objectives

1.03

The student will be able to compare and order rational numbers.

Instructor: _____ Time Frame: **80 minutes**
Subject: Math Grade 6 Date: _____

Percents, Decimals, and Fractions

Essential Question: Over the last two days you have been studying how to turn percents into fractions and decimals and how to turn fractions and decimals into percents. Now that you have mastered these skills, I want you to answer the following: Is it easier to convert percents into fractions and decimals or would you rather convert fractions and decimals into percents. (Explain)

Objective (s) Numbers: **1.03**
Outcomes: The student will be able to compare and order rational numbers.
Materials: Textbook pages 422-426
Anticipatory Set: Today we will learn to write decimals and fractions as percents.

During the Lesson

Presentation of Information:
Integration of Other Subjects: Writing (opinion)
Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Reading for information and interpretation.
Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Understanding how percents, fractions and decimals are related is a fundamental skill! We will ensure success by completing activities from Math6.org.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice:
1. Project and complete the Guided Practice - Change Decimals to Percents from Math6.org onto the screen.
2. Project and complete the Guided Practice - Change Fractions to Percents from Math6.org onto the screen.
3. Project and complete the Guided Practice - Ordering Percents, Fractions & Decimals from Math6.org onto the screen.

After the Lesson

Independent Practice
Text page 424 - 425 {1–26, 31–38, 46–51}
AIG: {20–59}
Assign workbook page 8.8

Closure / Assessment: The Math6.org extension for this lesson (8.8) will show you how to format percents, decimals and fractions with Microsoft Excel. You should complete that activity. OR Write an opinion piece to discuss which presentation of a number helps you understand its value best. Do you prefer looking at fractions, decimals or percents? (include a poll and graph)

Reflection:

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **8** activities connected with this lesson
Change Decimals to Percents Guided Practice
Change Fractions to Percents Guided Practice
Ordering Percents, Fractions and Decimals Guided Practice
**Excel - Ordering Numbers

Math Objectives

1.07

The student will be able to develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Instructor: _____ Time Frame: **80 minutes**
Subject: Math Grade 6 Date: _____

Percent Problems

Essential Question: Percent problems are the math problems that adults must do all of the time. No matter what field of study you follow or job you take, you will always need to be able to figure out the percent of a number to solve problems that you will run into. Oddly enough, the 8th grade EOG barely touches these type of problems and focuses more on "higher math" that will only be used by people who choose to go into a math related field. Do you think that the eighth grade EOG should be used to see if a student is ready to go into "higher math" or should it be used to see if a student has mastered the basic maths that everyone will need to use throughout their life? (Explain)

Objective (s) Numbers: **1.07**
Outcomes: The student will be able to develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Materials: Textbook pages 426-431; Problem Solving 8.9
Anticipatory Set: Today we use the skills we have been learning to help us find the missing value in a percent problem.

During the Lesson

Presentation of Information:
Integration of Other Subjects: Writing (narratives)
Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Reading for information and interpretation.
Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Percent problems can either be solved as a proportion or by using an algebraic expression. Most of the time you will prefer algebra, but if you ever get confused, simply set up a proportion!

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Use a 4x4 to model the solutions for the problem on Problem Solving 8.9

After the Lesson

Independent Practice: Text page 428 - 429 {1–18}
AIG: {11–28}
Assign workbook page 8.9

Closure / Assessment: The Math6.org extension for this lesson (8.9) will show you how to create a proper circle graph using a compass, protractor and ruler. You should complete that activity. OR Create a 5 question quiz (with answer key) using real-world situations in which percents are used.

Reflection:

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **5** activities connected with this lesson
**Constructing Circle Graphs

Name _____ Date _____ Class _____

LESSON 8-9

Problem Solving

Percent Problems

In 2000, the population of the United States was about 280 million people.

Use this information to answer each question.

1. About 20% of the total United States population is 14 years old or younger. How many people is that?

_____

2. About 6% of the total United States population is 75 years old or older. How many people is that?

_____

3. About 50% of Americans live in states that border the Atlantic or Pacific Ocean. How many people is that?

_____

4. About 12% of all Americans live in California. What is the population of California?

_____

5. About 7.5% of all Americans live in the New York City metropolitan area. What is the population of that region?

_____

6. About 12.3% of all Americans have Hispanic ancestors. What is the Hispanic American population here?

_____

7. Males make up about 49% of the total population of the United States. How many males live here?

_____

8. About 75% of all Americans live in urban areas. How many Americans live in or near large cities?

_____

Circle the letter of the correct answer.

9. About 7.4% of all Americans live in Texas. What is the population of Texas?

A 74 million **C** 7.4 million

B 20.72 million **D** 2.072 million

10. Between 1990 and 2000, the population of the United States grew by about 12%. What was the U.S. population in 1990?

F 250 million **H** 313.6 million

G 33.6 million **J** 268 million

Math Objectives

1.07

The student will be able to develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Instructor: _____ Time Frame: **80 minutes**
Subject: Math Grade 6 Date: _____

Using Percents

Essential Question: Today you learned how the percent of the bill will vary for a tip. One person's idea of satisfactory or exemplary service will vary from another's. Can you come up with a set of service requirements and create a hierarchy that will show what must be done to earn each level of tipping percent?

Objective (s) Numbers: **1.07**
Outcomes: The student will be able to develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Materials: Textbook pages 432-437
Anticipatory Set: Today we will learn to use percents to figure sales tax, tips and discounts. I have a special way to do this so you need to pay attention because you may never be shown my way again!

During the Lesson

Presentation of Information:
Integration of Other Subjects: Writing (narrative / scripts)
Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Reading for information and interpretation.
Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Discuss, define and model vocabulary {tax rate, tip, discount}

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Create three 4x4's to practice tax rates, discounts and tips.
1. Model tips first since they are a straight percent and are often left separate from the bill.
2. Model using 1 + tax rate to find total costs. (5% tax is ITEM * 1.05...)
3. Model "percent on" method for finding the cost of an item that has been discounted. Discuss the importance of carefully reading the problem to determine whether you are looking for "percent off" or "percent on".

After the Lesson

Independent Practice: Text page 434 - 435 {1–10, 13}
AIG: {6–16}
Assign workbook page 8.10

Closure / Assessment: Create a puppet show (sock puppets are fine) to show either proper tipping amounts (a dime; 10% ; 15% ; 20%) or a scenario where a person is confused by discounts and is helped to understand the "percent on" concept.

Reflection:

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **7** activities connected with this lesson
Tax Rates Guided Practice
Calculating "Discounts" Guided Practice
**Cost Busters

Math Objectives

1.03, 1.07, 5.04

The student will be able to compare and order rational numbers; The student will be able to develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; The student will be able to use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.

Instructor: _____ Time Frame: **80 minutes**
Subject: Math Grade 6 Date: _____

Ratio, Proportion and Percent Review

Essential Question: What steps do you think have been the most helpful in preparing yourself for the examination on a set of skills? (decision making)

Objective (s) Numbers: **1.03, 1.07, 5.04**
Outcomes: The student will be able to compare and order rational numbers; The student will be able to develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; The student will be able to use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.

Materials: Textbook pages 442-445; Test Form B
Anticipatory Set: Today we will review the skills that we have been studying during this unit. We will practice test taking skills and remediate those skills about which we don't feel as comfortable as others.

During the Lesson

Presentation of Information:
Integration of Other Subjects: Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Reading for information and interpretation.
Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Discuss the value of careful review, the process that should occur when errors are made and the importance of reviewing material that students are less comfortable with.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Discuss Instructions for the review on pages 442-444. Have the students review the Headings and address and questions or requests for immediate remediation.

After the Lesson

Independent Practice: Text page 442-444 {1-37}
AIG: {1-37}
Assign Test Form B

Closure / Assessment: Have co-operative learning groups review and discuss their answers before turning their papers in for correction by the teacher.

Reflection:

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **many** activities connected with this lesson
Vocabulary Matching Practice
Practice Test
Ratios Quiz Bowl
Ratios Millionaire

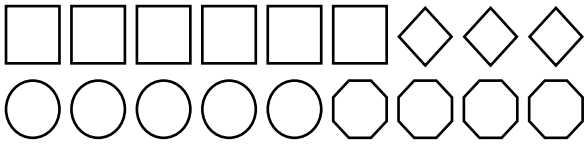
Name _____ Date _____ Class _____

CHAPTER 8

Chapter Test

Form B

Use the shapes pictured to write the following ratios.



1. squares to octagons _____

2. octagons to diamonds _____

3. Write 3 equivalent ratios to compare the number of circles with the number of squares.

_____

_____

4. If there are 11 boys on a soccer team and 4 of them scored goals at the last game, what is the ratio of boys that scored to boys that did not score?

_____

Find the missing value in each proportion.

5. $\frac{5}{y} = \frac{9}{27}$ _____

6. $\frac{6}{24} = \frac{x}{9}$ _____

7. $\frac{14}{5} = \frac{35}{y}$ _____

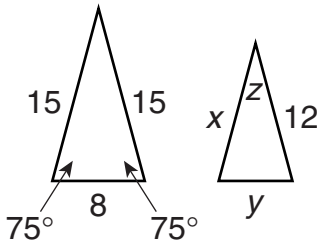
8. A bag of apples weighs 3 pounds. How many ounces is this?

_____

9. A punch bowl holds 2 gallons of punch. How many 8-ounce cups is this?

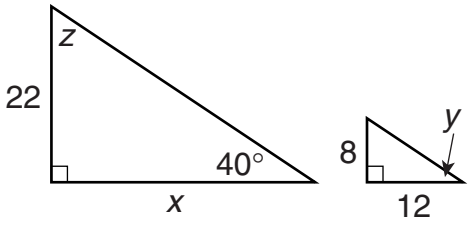
_____

10. The two triangles are similar. Find the missing measurements.



_____

11. The two triangles are similar. Find the missing measurements.



_____

12. A house casts a shadow that is 18 feet long. At the same time, a 4-foot-tall child casts a shadow that is 3.2 feet long. How tall is the house?

_____

Name _____ Date _____ Class _____

CHAPTER 8

Chapter Test

Form B, continued

13. A 7-foot ladder casts a shadow 12 feet long. How long of a shadow would a 15-foot cherry tree cast at the same time? Round your answer to the nearest tenth.

_____

14. A scale model of a space shuttle is constructed using the scale 1 inch:146 inches. The actual length of the space shuttle is $194\frac{2}{3}$ feet. Find the length of the scale model in inches.

_____

15. A model car is constructed using the scale 1 foot:12 feet. The actual length of the car is 18 feet. Find the length of the scale model car.

_____

Write each percent as a fraction in simplest form and as a decimal.

16. 54% _____

17. 60% _____

18. 35% _____

19. 44% _____

20. Order from least to greatest: 21.7%, $\frac{1}{5}$, 0.21, $\frac{2}{9}$.

_____

Write each decimal or fraction as a percent. Round to the nearest tenth of a percent.

21. 0.817 _____

22. 0.021 _____

23. $\frac{23}{25}$ _____

24. $\frac{7}{9}$ _____

Find each percent.

25. 57% of 45 _____

26. 13% of 97 _____

27. 9% of 450 _____

28. A compact disc costs $17.97. The sales tax rate is 5%. How much will the total cost be for this compact disc?

_____

29. Carly has a coupon for 15% off the price of a camera. The camera has an original cost of $234.00. How much will the camera cost after the discount?

_____

Instructor: _____ Time Frame: **80 minutes**
Subject: Math Grade 6 Date: _____

Ratio, Proportion and Percent Assessment

Essential Question: Review your responses to the last 7 assessment "Essential Questions". Has your consideration of these points helped you to improve your performance on the tests? (If so, how so?) (If not, why do you think they haven't helped?)

Objective (s) Numbers: **1.03, 1.07, 5.04**
Outcomes: The student will be able to compare and order rational numbers; The student will be able to develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; The student will be able to use graphs, tables, and symbols to model and solve problems involving rates of change and ratios.

Materials: Cumulative Assessment (Form B)
Anticipatory Set: Today we will assess our mastery of Ratios, Proportions and Percents.

During the Lesson

Presentation of Information:
Integration of Other Subjects: Writing (evaluation)
Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading: Reading for information and interpretation.
Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Review the Practice Test, answer questions and model answers.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Discuss the Instructions.

After the Lesson

Independent Practice Assign Cumulative Review Test Form B

Closure / Assessment: Write a paragraph evaluation of your expected performance on this test. What did you do well on? What did you have trouble with? How did you prepare for this test and what would you like to do differently for the next exam?

Choose a Journal entry to share with your class.

Reflection:

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **many** activities connected with this lesson
Vocabulary Matching Practice
Practice Test
Ratios Quiz Bowl
Ratios Millionaire

Name _____ Date _____ Class _____

CHAPTER 8 Cumulative Test
Form B

Select the best answer for questions 1–48.

1. Alonda purchased 8 kiwi for $2.00. What was the unit rate?

A $\frac{\$0.25}{\text{kiwi}}$ **C** $\frac{\$2.00}{\text{kiwi}}$

B $\frac{\$4.00}{\text{kiwi}}$ **D** $\frac{8 \text{ kiwi}}{\$2.00}$

2. A quadrilateral with exactly one set of parallel sides is a _____.

F rectangle **H** square

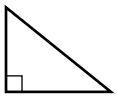
G trapezoid **J** rhombus

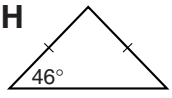
3. Find 9% of 270.

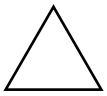
A 2430 **C** 24.3

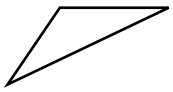
B 243.0 **D** 2.43

4. Which is an obtuse triangle?

F 

H 

G 

J 

5. Subtract $7\frac{3}{8} - 4\frac{5}{16}$.

A $3\frac{1}{2}$ **C** $3\frac{1}{8}$

B $3\frac{1}{16}$ **D** $11\frac{1}{16}$

6. Which is the greatest value?

F $\frac{7}{11}$ **H** 0.7

G 7% **J** $\frac{8}{13}$

7. Which value is closest to $\frac{4}{9}$?

A 4% **C** 44%

B 40% **D** 50%

8. Find the GCF of 28, 42, and 63.

F 4 **H** 7

G 6 **J** 9

9. Which ratio could be used to compare the number of triangles to the number of squares in the pattern?

□ △ □ △ □ □ △ △ △ □ □ □

A 7:5 **C** 5:12

B 5:7 **D** 12:7

10. Julio needs $2\frac{1}{4}$ cups of sugar for a pie recipe and $1\frac{1}{2}$ cups of sugar for a banana bread recipe. How much sugar does Julio need to bake both the pie and bread?

F $3\frac{2}{6}$ cups **H** $3\frac{1}{4}$ cups

G $3\frac{3}{4}$ cups **J** 4 cups

11. Solve $x - 34.7 = 43.2$.

A $x = 8.5$ **C** $x = 77.9$

B $x = 26.3$ **D** $x = 1{,}499.04$

12. Michael's family went out for breakfast. The bill came to $21.04. His father wants to leave a tip that is 20% of the bill. About how much should his father leave for the tip?

F $3.00 **H** $4.00

G $3.50 **J** $5.00

13. Simplify 9^5.

A 45 **C** 19,523

B 81 **D** 59,049

Name _____ Date _____ Class _____

CHAPTER 8

Cumulative Test

Form B, continued

14. Solve $14x = 168$.

F $x = 12$ **H** $x = 154$

G $x = 14$ **J** $x = 2{,}352$

15. The 4-H club volunteers at the local humane society. The members volunteered the following hours: 2, 3, 4, 2, 2, 1, 2, 4, 3, 2. What is the mean of the number of hours volunteered?

A 3 h **C** 2 h

B 2.5 h **D** 1 h

16. Mitchell worked 12.5 hours last week and was paid $6.75 per hour. How much money did Mitchell earn?

F $84.38 **H** $87.50

G $86.87 **J** $165.23

17. Mr. Lin bought 5 new pairs of socks. He paid $21.25 for the five pairs. How much does one pair of socks cost?

A $4.01 **C** $5.23

B $4.25 **D** $106.25

18. The stem-and-leaf plot shows the high temperatures for two weeks in July. What is the range of temperatures?

Stem	Leaves
7	3 5
8	0 1 2 5 8 8 8 9
9	0 1 2 2

F 19 **H** 73

G 20 **J** 88

19. Use mental math to add $23 + 18 + 7 + 2 + 25 + 5$.

A 80 **C** 100

B 90 **D** 110

20. What are all the factors of 32?

F 1, 2, 3, 4, 8, 16, 32

G 1, 2, 4, 8, 16, 32

H 1, 2, 4, 6, 8, 16, 32

J 1, 2, 4, 6, 8, 16, 32

21. What is the value of p in the equation $p - 56 = 195$?

A $p = 251$ **C** $p = 143$

B $p = 139$ **D** $p = 3.48$

22. Which of the following is correct?

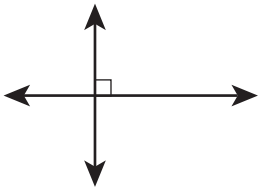
F $65\% > 0.75$

G $0.28 < 22\%$

H $84\% > 0.82$

J $0.38 < 31\%$

23. Which description best fits the pair of lines?



A parallel

B perpendicular

C intersecting

D perpendicular and intersecting

24. If Nathan saves 35% on a $22.50 dress shirt, how much did he save?

F $7.78 **H** $12.38

G $7.88 **J** $14.63

Name _____ Date _____ Class _____

CHAPTER 8

Cumulative Test

Form B, continued

25. For triangle ABC, $\angle B$ measures 45° and $\angle C$ measures 45°. Find the measure of $\angle A$ and classify the triangle.

A $\angle A = 90°$; right triangle

B $\angle A = 45°$; acute triangle

C $\angle A = 45°$; equilateral triangle

D $\angle A = 110°$; obtuse triangle

26. What is the decimal for twenty-two and fifty-four thousandths?

F 2,254 **H** 22.054

G 22.54 **J** 22.0054

27. What is $16\frac{9}{10}$ as a decimal?

A 16.9 **C** 16.01

B 16.910 **D** 61.9

28. Express $\frac{74}{6}$ as a mixed number.

F $12\frac{1}{2}$ **H** $12\frac{1}{6}$

G $12\frac{1}{3}$ **J** $12\frac{14}{6}$

29. Divide $\frac{9}{11} \div 11$.

A 9 **C** $\frac{9}{121}$

B $\frac{9}{22}$ **D** 11

30. What is the prime factorization of 76?

F $70 + 6$ **H** $4^2 \times 3 \times 5$

G $2^2 \times 3 \times 5$ **J** $2^2 \times 19$

31. Solve the equation $x - \frac{6}{7} = \frac{3}{14}$, and express the answer in simplest form.

A $x = \frac{9}{21}$ **C** $x = \frac{9}{14}$

B $x = 2$ **D** $x = 1\frac{1}{14}$

32. Which measure is equivalent to 25 centimeters?

F 250 m **H** 2.5 m

G 0.25 m **J** 2.5×10^3 mm

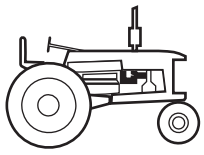
33. Which expression completes the table?

w	??
9	1
18	2
36	4

A $w - 8$ **C** $w - 18$

B $3w - 5$ **D** $\frac{w}{9}$

34. Use the scale drawing shown to find the actual size.



15 in.

Scale: 1 in.: 16 in.

F 1.07 in. **H** 240 in.

G 31 in. **J** 225 in.

35. A 15-foot tall lamppost casts a 32-foot shadow. How long of a shadow would a 30-foot flagpole cast?

A 30 feet **C** 64 feet

B 62 feet **D** 128 feet

36. What is the mean of the following data set?

3, 3.5, 7, 4, 4.5, 2, 5, 4.5

F 4.2 **H** 4.5

G 4.25 **J** 5

Name _____ Date _____ Class _____

CHAPTER 8

Cumulative Test

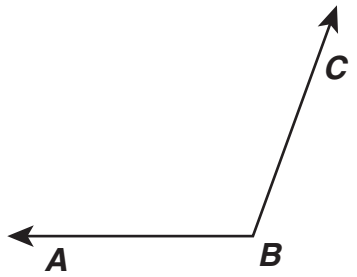
Form B, continued

37. 72 is what percent of 600?

A 8.3% **C** 11%

B 10% **D** 12%

38. What is the best estimate for the measure of $\angle ABC$?



F 30° **H** 110°

G 70° **J** 150°

39. What do you do first to evaluate the expression $4.3 + 2.1 \bullet 9 + 3^2$?

A add 4.3 and 2.1

B multiply 2.1 and 9

C add 9 and 3^2

D square 3

40. What is the name of a polygon with six sides?

F decagon **H** hexagon

G octagon **J** sixagon

41. What is the supplement of an angle whose measure is 48°?

A 42° **C** 121°

B 100° **D** 132°

42. How many lines of symmetry does a rectangle have?

F 0 **H** 2

G 1 **J** 4

43. Doug counts the number of boys and girls in his math class and makes a tally table. How many boys are in his class?

Boys	Girls
𝍸 𝍸 ||	𝍸 𝍸 |||

A 13 **C** 10

B 12 **D** 2

44. Estimate the cost of going camping by rounding to the nearest dollar.

site rental	$12.95
parking	$4.30
equipment	$9.76
food	$8.23

F $36.00 **H** $33.00

G $35.00 **J** $32.00

45. Solve $x + 87 = 123$.

A $x = 36$ **C** $x = 210$

B $x = 56$ **D** $x = 10{,}701$

46. Which phrase does NOT describe the expression $2 + 78x$?

F 2 plus 78 times x

G the product of 78 and x

H 2 more than the product of 78 and x

J 78 times x increased by 2

47. Solve $3.4y = 22.1$.

A $y = 25.5$ **C** $y = 6.5$

B $y = 18.7$ **D** $y = 4.2$

48. What is the next term in the pattern 7, 15, 23, 31, 39, …?

F 40 **H** 49

G 47 **J** 52

Name _____

Ratio, Proportion and Percent Assessment

1	A	B	C	D
2	F	G	H	J
3	A	B	C	D
4	F	G	H	J
5	A	B	C	D
6	F	G	H	J
7	A	B	C	D
8	F	G	H	J
9	A	B	C	D
10	F	G	H	J
11	A	B	C	D
12	F	G	H	J
13	A	B	C	D
14	F	G	H	J
15	A	B	C	D
16	F	G	H	J
17	A	B	C	D
18	F	G	H	J
19	A	B	C	D
20	F	G	H	J
21	A	B	C	D
22	F	G	H	J
23	A	B	C	D
24	F	G	H	J

25	A	B	C	D
26	F	G	H	J
27	A	B	C	D
28	F	G	H	J
29	A	B	C	D
30	F	G	H	J
31	A	B	C	D
32	F	G	H	J
33	A	B	C	D
34	F	G	H	J
35	A	B	C	D
36	F	G	H	J
37	A	B	C	D
38	F	G	H	J
39	A	B	C	D
40	F	G	H	J
41	A	B	C	D
42	F	G	H	J
43	A	B	C	D
44	F	G	H	J
45	A	B	C	D
46	F	G	H	J
47	A	B	C	D
48	F	G	H	J

Name _____

Ratio, Proportion and Percent Assessment

1	A	B	C	D
2	F	G	H	J
3	A	B	C	D
4	F	G	H	J
5	A	B	C	D
6	F	G	H	J
7	A	B	C	D
8	F	G	H	J
9	A	B	C	D
10	F	G	H	J
11	A	B	C	D
12	F	G	H	J
13	A	B	C	D
14	F	G	H	J
15	A	B	C	D
16	F	G	H	J
17	A	B	C	D
18	F	G	H	J
19	A	B	C	D
20	F	G	H	J
21	A	B	C	D
22	F	G	H	J
23	A	B	C	D
24	F	G	H	J

25	A	B	C	D
26	F	G	H	J
27	A	B	C	D
28	F	G	H	J
29	A	B	C	D
30	F	G	H	J
31	A	B	C	D
32	F	G	H	J
33	A	B	C	D
34	F	G	H	J
35	A	B	C	D
36	F	G	H	J
37	A	B	C	D
38	F	G	H	J
39	A	B	C	D
40	F	G	H	J
41	A	B	C	D
42	F	G	H	J
43	A	B	C	D
44	F	G	H	J
45	A	B	C	D
46	F	G	H	J
47	A	B	C	D
48	F	G	H	J

Ratio, Proportion and Percent Assessment

1		B	C	D
2	F		H	J
3	A	B		D
4	F	G	H	
5	A		C	D
6	F	G		J
7	A	B		D
8	F	G		J
9	A		C	D
10	F		H	J
11	A	B		D
12	F	G		J
13	A	B	C	
14		G	H	J
15	A		C	D
16		G	H	J
17	A		C	D
18		G	H	J
19		B	C	D
20	F		H	J
21		B	C	D
22	F	G		J
23	A	B	C	
24	F		H	J

25		B	C	D
26	F	G		J
27		B	C	D
28	F		H	J
29	A	B		D
30	F	G	H	
31	A	B	C	
32	F		H	J
33	A	B	C	
34	F	G		J
35	A	B		D
36		G	H	J
37	A	B	C	
38	F	G		J
39	A	B	C	
40	F	G		J
41	A	B	C	
42	F	G		J
43	A		C	D
44	F		H	J
45		B	C	D
46	F		H	J
47	A	B		D
48	F		H	J

Chapter 8 Assessment

11	100%
10	91%
9	82%
8	73%
7	64%
6	55%
5	45%
4	36%
3	27%
2	18%
1	9%
0	0%

Math Assessment Scoring Rubric - Chapter ___

10%	Vocabulary 3 column notes
10%	Math Journal (2 entries - 1 presented)
20%	Cumulative Assessment (curved)
60%	Current Chapter Assessment Questions
5%	Signed Math6.org Activity Sheet (Extra Credit)

Student _____

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