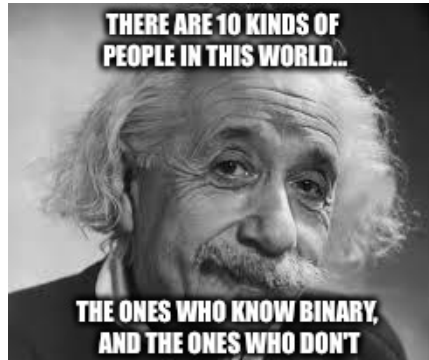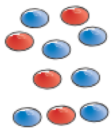Date: _____   Name: _____

MATH 8 Chapter 2: Rates, Ratios, Proportional Reasoning

Number represents, describes, and compares the quantities of ratios, rates, and percents.

2.1 Two-Term and Three-Term Ratios p.46-54

THERE ARE 10 KINDS OF PEOPLE IN THIS WORLD...

THE ONES WHO KNOW BINARY, AND THE ONES WHO DON'T

_____
compares *two* quantities measured in the same units. Written as **a:b** or **a to b**.

_____
compares *three* quantities measured in the same units. Written as **a:b:c** or **a to b to c**.
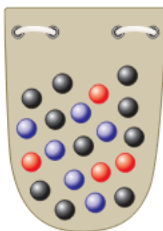
_____ compares different parts of a group to each other.

_____ compares one part of a group to the whole group.

Example 1: Represent Ratios

A bag contains 20 marbles.

a) What is the **two-term ratio** of black to red marbles?

b) Compare the number of red marbles to the total number of marbles. Write the ratio as an equivalent fraction in lowest terms.

c) What marbles are represented by the ratio 6:10?

d) Write the **three-term ratio** comparing the red, purple, and black marbles.

> To express a fraction in lowest terms, divide the numerator and the denominator by the same number.

> You can multiply or divide each term of a three-term ratio by the same number.

Show You Know

Use the design to help answer the following questions.

a) What is the ratio of red tiles to total titles? Express the answer three different ways.

b) What could the ratio 4:6 represent?

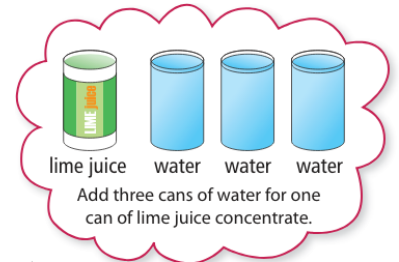**c)** What is the ratio of red to black to white tiles?

Example 2: Apply Ratios

Tamara has a recipe for fruit punch that calls for three cans of frozen orange juice concentrate, two cans of raspberry juice concentrate, and one can of lime juice concentrate. For each can of juice concentrate, the directions say to add three cans of water. All the cans are the same size. Tamara makes one recipe of fruit punch.

a) Copy and complete the following chart.

	Orange	Raspberry	Lime	Total
Juice Concentrate (cans)				
Water (cans)				
Total Punch (cans)				

b) What is the ratio of orange juice to lime juice concentrate? Express the ratio two different ways.

c) What is the ratio of lime to orange to raspberry juice concentrate?

d) What is the ratio of water to juice concentrate?

e) How many cans of punch does the recipe make?

f) What is the ratio of orange, raspberry, and lime juice concentrate to total punch? Express the ratio as a fraction, a decimal, and a percent.

lime juice   water   water   water

Add three cans of water for one can of lime juice concentrate.

To convert the decimal to a percent, multiply by 100 and add the percent symbol.

Check Your Understanding p.51-54 #5, 6, 10, 11, 13, 15, 18, 19, 21