Good Afternoon!

Today you will need:

- corrected homework
  vocab sheet
- graph spiral
- calculator
- pencil

Head your graph spiral for Problem 1.3

1.3 Time to Concentrate
Scaling Ratios

In Problem 1.2, you may have used the ratios below to determine which recipe was the most "orangey." Below are two ratios describing Mix A.

two cups of concentrate to three cups of water	OR	two cups of concentrate to five cups of juice
2 : 3 or $\frac{2}{3}$		2 : 5 or $\frac{2}{5}$

The first ratio is a **part-to-part ratio.** It compares one part (the water) of the whole (the juice) to the other part (the concentrate). The second ratio is a **part-to-whole ratio.** It compares one part (the concentrate) to the whole (the juice).

part-to-part ratio

A ratio that represents a relationship between one part of a whole and another part of the whole.	ex: **A recipe call for 2 cans of juice concentrate and 3 cans of water.** The part-to-part ratio would be 2 : 3

part-to-whole ratio

A ratio that represents a relationship between one part of a whole and the whole.	ex: **A recipe call for 2 cans of juice concentrate and 3 cans of water.** The part-to-whole ratios would be 2 : 5 and 3 : 5

For Mix B, you can write the part-to-part ratio as 5 cups concentrate to 9 cups water, or 5 : 9, or $\frac{5}{9}$. You can write the part-to-whole ratio as 5 cups concentrate to 14 cups juice, or 5 : 14, or $\frac{5}{14}$.

Scaling ratios was one of the comparison strategies Sam used in Problem 1.2. He wrote

Part-to-Part Ratio for Mix A

$$\frac{2 \text{ cups concentrate}}{3 \text{ cups water}} = \frac{4 \text{ cups concentrate}}{6 \text{ cups water}} = \frac{6 \text{ cups concentrate}}{9 \text{ cups water}}$$

Part-to-Part Ratio for Mix B

$$\frac{5 \text{ cups concentrate}}{9 \text{ cups water}}$$

In the next Problem you will look at several more mixes for orange juice and lemonade.

As a team, answer the questions on pages 13 and 14.
Record the answers in your graph paper.

A A typical can of orange juice concentrate holds 12 fluid ounces. The standard recipe is shown below.

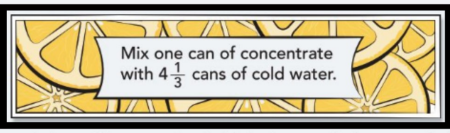
How large a pitcher will you need to hold the juice made from a typical can? Show or explain how you arrived at your answer.

Class Work Answers:

A. You need a container that holds 48 ounces.

$$\frac{1 \text{ can concentrate}}{4 \text{ cans juice}} \overset{\bullet 12}{=} \frac{12 \text{ ounces concentrate}}{48 \text{ ounces juice}}$$

B A typical can of lemonade concentrate holds 12 fluid ounces. The standard recipe is shown below.



1. How large a pitcher will you need to hold the lemonade from a typical can? Show or explain how you arrived at your answer.

2. The pitchers below hold $\frac{1}{2}$ gallon, 60 ounces, and 1 gallon. Which container should you use for the lemonade from one can? Explain your reasoning.
Note: 1 gallon = 128 ounces

Homework:

finish part B of class work

Class Work Answers:

B. 1. You need a container that holds 64 ounces.

$$\frac{1\text{ can concentrate}}{5\frac{1}{3}\text{ cans juice}} = \frac{12\text{ ounces concentrate}}{64\text{ ounces juice}}$$

• 12 • 12

Class Work Answers:

B. 2. The 1/2 gallon container, because it holds 64 ounces.

$$\frac{1\text{ gallon}}{128\text{ ounces}} = \frac{\frac{1}{2}\text{ gallon}}{64\text{ ounces}}$$

• $\frac{1}{2}$ • $\frac{1}{2}$

part-to-part ratio

A ratio that represents a relationship between one part of a whole and another part of the whole.

ex:

A recipe call for 2 cans of juice concentrate and 3 cans of water.

The part-to-part ratio would be 2 : 3

part-to-whole ratio

A ratio that represents a relationship between one part of a whole and the whole.

ex:

A recipe call for 2 cans of juice concentrate and 3 cans of water.

The part-to-whole ratios would be 2 : 5 and 3 : 5

Homework Answers:

B. 1. You need a container that holds 64 ounces.

$$\frac{1 \text{ can concentrate}}{5\frac{1}{3} \text{ cans juice}} \overset{\bullet 12}{=} \frac{12 \text{ ounces concentrate}}{64 \text{ ounces juice}}$$

B. 2. The 1/2 gallon container, because it holds 64 ounces.

$$\frac{1 \text{ gallon}}{128 \text{ ounces}} \overset{\bullet \frac{1}{2}}{=} \frac{\frac{1}{2} \text{ gallon}}{64 \text{ ounces}}$$