

**Homework 8**

Note: Continue to write fractions as “2 fifths” not “ $\frac{2}{5}$ ”. Even on the textbook problems.

**1. Multiple Groups Problems.** Consider the problem below.

I have 8 gallons of water. Each bucket holds 3 gallons.

How many buckets will I fill?

- a. Solve this problem using a picture that makes sense to you. Be sure to carefully explain the fractional part of your answer.
- b. Identify the three quantities in this problem: product, group size, and # of groups. Give all three of your answers using numbers and units (like “8 gallons”).
- c. Breaking the problem down...
  - i. If 1 bucket is 1 whole, then how much of a bucket is 1 gallon? Why?
  - ii. Now that you know what sized piece each gallon is, how many of these pieces do we have in this problem?
  - iii. Why/how do (i) and (ii) together give you the answer “8 thirds” to the problem?
  - iv. Why does it make sense for a bucket to be 1 whole for the answer to this problem?
- d. Go back to the problem and replace the “8” with “a” and the “3” with “b”. Generalizing from the strategy in (c), give a written explanation for why the answer is “a b-ths”.

**2. Textbook Problems**

- a. **Textbook Section 5.1** (p. 200)  
5, 9, 10, 13a/b/c/d
- b. **Textbook Section 6.4** (p. 256)  
3, 4, 9
  - Solve using a picture
  - Skip “invert and multiply” part of problem
  - Clearly explain your work