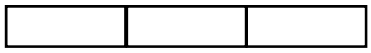
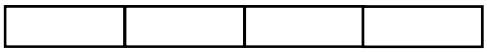
Ratio and percent review practice problems:

1. Understand and convert between different ways of expressing a ratio relationship. For example:

This bar diagram shows the relationship between the number of hard back books and the number of paper back books on my shelf:

HB: 

PB: 

a. Give two examples of how many hard back and how many paperback books I could have

b. Write two sentences describing the amount of hard back and paperback books I have as a ratio.

c. Write two sentences telling what fraction of the books are each kind.

d. Write two sentences telling how many times as many books are of one kind as the other.

e. Writ two sentences telling what percent of the books are of each kind.

2. Find unit rates and use them to solve problems. Examples:

a. Mark can read 50 pages in 2/3 of an hour. How many pages can he read in one hIour?

b. A 28 oz. can of tomato sauce costs $2.10, and a 16 oz can of tomato sauce costs $1.60. Which has the lowest cost per ounce?

c. Almonds cost $2.40 for 8 ounces. If the cost is proportional, how much does it cost to get 36 ounces of almonds.

3. Solve some ratio problems. I may specify that you show how to solve a problem using bar diagrams. Examples:

a. Janet has 3/5 as many Pokemon cards as Alex. Alex has 30 more Pokemon cards than Janet. If Alex gives 10 cards to Janet, what will the new ratio be of Janet's cards to Alex's cards?

b. There are 2/3 as many real eggs as chocolate eggs hidden in the garden. If there are 30 eggs total (chocolate and real) hidden in the garden, how many chocolate eggs are in the garden?

c. In a bag of M&Ms there are 3/5 as many red M&Ms as green M&Ms. There are 15 red M&Ms. How many green M&Ms are there?

4. Show how to solve 3c both using a bar diagram and by multiplying or dividing. Explain how you decided what to multiply or divide.

5. Solve problems with percents using 100-grids. Examples:

a. Jan's credit card balance at the end of last month was $1025. After paying for car repairs, Jan's credit card balance is now $1345. By what percent did her credit card balance increase?

b. Winter jackets at the clothing shop were discounted by 20% in March, and then discounted by another 20% in April. What was the total discount?

c. Maya bought a game that was on sale 25% off. She paid $18 for the game. How much did the game cost before the discount?