Name: _____ Date: _____

BLM 8–1

Chapter 8 Math Link Introduction

This worksheet will help you with the Math Link introduction on page 291.

1. Model each problem with an equation. Then, solve the equation. Share your method with your classmates.

a) The mass of carbohydrate in a medium-sized peach is 5 g less than the mass of carbohydrate in a medium-sized orange. The peach contains 10 g of carbohydrate. What mass of carbohydrate is in the orange?

Let p represent the peach and r represent the orange. If the peach has 5 g less carbohydrate than the orange, we can say $p = r - 5$.

You know that the mass of carbohydrate in the peach is 10 g. Substitute this value into the equation. What mass of carbohydrate is in the orange?

$$\_\_\_\_\_ = r - 5$$
$$\_\_\_\_\_ + 5 = r - 5 + 5$$
$$\_\_\_\_\_ = r$$

The mass of carbohydrate in the orange is _____ g.
Write another equation that shows the same relationship.

b) Half of a pink grapefruit contains 47 mg of vitamin C. What mass of vitamin C does a whole pink grapefruit contain?

Let h represent the half grapefruit. What does $2h$ equal? Write an equation that can be used to solve for the amount of vitamin C in the whole grapefruit. Then, solve your equation.

c) One litre of skim milk contains 1280 mg of calcium. What is the mass of calcium in one 250-mL serving of skim milk?

What percentage of a whole litre is one 250-mL serving? Write an equation that shows the mass of calcium in one 250-mL serving. Use s for the amount of calcium in one serving of skim milk. Use 0.25 as the decimal value of one serving of milk. Then, solve your equation.

d) A 250-mL serving of baked beans in tomato sauce contains 11 g of fibre. This mass of fibre is 1 g more than the mass of fibre in two 85-g servings of whole wheat pasta. What mass of fibre is in one 85-g serving of whole wheat pasta?

Let b represent the serving of beans, and p represent the serving of pasta. Write an equation that uses both variables to show the relationship between one serving of beans and two servings of pasta.

Substitute the known amounts into your equation. Then, solve your equation to determine the mass of fibre in one 85-g serving of whole wheat pasta.

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e) The mass of potassium in a medium-sized apple, including the skin, is about 160 mg. This mass is 10 mg more than one third of the mass of potassium in an average-sized banana. What mass of potassium is in the banana?

Let *a* represent the potassium found in one apple. Use *b* to represent the potassium in one banana. Write an equation that shows that one-third of a banana plus 10 mg is equal to the potassium in an apple.

Substitute known amounts into your equation. Solve your equation.

f) One serving of a snack contains 250 mL of dried apricots and 125 g of low-fat, plain yogurt. Three servings of this snack contain 36 g of protein. If 125 g of yogurt provides 7 g of protein, how much protein is in 250 mL of dried apricots?

Let *a* represent the amount of protein in 250 mL of apricots. Let *y* represent the amount of protein in 125 g of yogurt. Let *p* represent the total amount of protein in three servings.

Since *a* and *y* represent the amount of protein in one serving, how would you write *p* to represent the total amount of protein in one serving?

Write an equation that uses all three variables to show the relationship between the amount of protein in one serving of apricots, the amount of protein in one serving of yogurt, and the total amount of protein in one serving.

Substitute known amounts into your equation. Then, solve your equation to determine the amount of protein in 250 mL of dried apricots.

2. Develop two different problems involving nutrition that can be modelled using linear equations. Use the Internet or the library to research the nutritional information. Make sure you can solve the problems you create. You may wish to follow the examples in #1 to write your two problems. Use different foods and different values for the nutritional data.

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