Lesson 3 Practice Problems

1. A landscaping company is delivering crushed stone to a construction site. The table shows the total weight in pounds, W, of n loads of crushed stone.

number of loads of crushed stone	total weight in pounds
0	0
1	2,000
2	4,000
3	6,000

   Which equation could represent the total weight, in pounds, for n loads of crushed stone?

   A. $W = \frac{6{,}000}{n}$

   B. $W = 6{,}000 - 2{,}000n$

   C. $W = 2{,}000n$

   D. $W = n + 2{,}000$

2. Members of the band sold juice and popcorn at a college football game to raise money for an upcoming trip. The band raised $2,000. The amount raised is divided equally among the m members of the band.

   Which equation represents the amount, A, each member receives?

   A. $A = \frac{m}{2{,}000}$

   B. $A = \frac{2{,}000}{m}$

   C. $A = 2{,}000m$

   D. $A = 2{,}000 - m$

3. Tyler needs to complete this table for his consumer science class. He knows that 1 tablespoon contains 3 teaspoons and that 1 cup contains 16 tablespoons.

number of teaspoons	number of tablespoons	number of cups
		2
36	12	
	48	3

   a. Complete the missing values in the table.

   b. Write an equation that represents the number of teaspoons, t, contained in a cup, C.

4. The volume of dry goods, like apples or peaches, can be measured usings bushels, pecks, and quarts. A bushel contains 4 pecks, and a peck contains 8 quarts.

   What is the relationship between number of bushels, b, and the number of quarts, q? If you get stuck, try creating a table.

5. The data show the number of free throws attempted by a team in its first ten games.

2	11	11	11	12	12	13	14
14	15						

The median is 12 attempts and the mean is 11.5 attempts. After reviewing the data, it is determined that 2 should not be included, since that was an exhibition game rather than a regular game during the season.

a. What happens to the median if 2 attempts is removed from the data set?

b. What happens to the mean if 2 attempts is removed from the data set?

(From Unit 1, Lesson 10.)

6. The standard deviation for a data set is 0. What can you conclude about the data?

(From Unit 1, Lesson 12.)

7. Elena has \$225 in her bank account. She takes out \$20 each week for w weeks. After w weeks she has d dollars left in her bank account.

   Write an equation that represents the amount of money left in her bank account after w weeks.

(From Unit 2, Lesson 2.)

8. Priya is hosting a poetry club meeting this week and plans to have fruit punch and cheese for the meeting. She is preparing 8 ounces of fruit punch per person and 2 ounces of cheese per person. Including herself, there are 12 people in the club.

   A package of cheese contains 16 ounces and costs \$3.99. A one-gallon jug of fruit punch contains 128 ounces and costs \$2.50. Let p represent number of people in the club, f represent the ounces of fruit punch, c represent the ounces of cheese, and b represent Priya's budget in dollars.

   Select **all** of the equations that could represent the quantities and constraints in this situation.

   A. $f = 8 \cdot 12$

   B. $c = 2 \cdot 3.99$

   C. $2 \cdot 3.99 + 2.50 = b$

   D. $2p = c$

   E. $8f + 2c = b$

(From Unit 2, Lesson 2.)

9. The density of an object can be found by taking its mass and dividing by its volume.

   Write an equation to represent the relationship between the three quantities (density, mass, and volume) in each situation. Let the density, D, be measured in grams/cubic centimeters (or g/cm^3).

   a. The mass is 500 grams and the volume is 40 cubic centimeters.

   b. The mass is 125 grams and the volume is v cubic centimeters.

   c. The volume is 1.4 cubic centimeters and the density is 80 grams per cubic centimeter.

   d. The mass is m grams and the volume is v cubic centimeters.

(From Unit 2, Lesson 2.)