# Chapter Review
## Sections 6.1, 6.3, 7.1, 7.3, 9.1, 9.2

1. Write each ratio as a fraction in lowest terms.
   a. 12 to 30

   b. 0.3 to 1.2

   c. $\dfrac{4}{5}$ to $\dfrac{4}{7}$

2. Solve each proportion.
   a. $\dfrac{2}{3} = \dfrac{4}{x}$

   b. $\dfrac{n}{3} = \dfrac{0.6}{3.6}$

3. Change each fraction to a percent.
   a. $\dfrac{7}{8}$

   b. $\dfrac{3}{16}$

   c. $2\dfrac{1}{2}$

4. Change each decimal to a percent.
   a. 0.213

   b. 2.01

   c. 0.025

5. Change each percent to a decimal.
   a. 45%

   b. 2.3%

   c. 125%

6. Change each percent to a fraction in lowest terms.
   a. 25%

   b. 2.4%

   c. 220%

7. Simplify each of the following using the properties of exponents.
   a. $(2x)(3x^2)$

   b. $(4x)^2(3x^3)$

   c. $(3x^2)^3(2x^4)^2$

   d. $(3x^2)^0(2x^4)^0$

Solve each of the following word problems. Write a statement identifying the quantity that the variable represents, write an equation that describes the word problem, plug in the known values, and solve for the missing quantity. Round answers to the nearest tenth, if needed.

8. A certain protein bar contains 2.5 servings. Two servings contain 11 grams of protein. Use a proportion to find the number of grams of protein in the bar.

9. A certain scale model has a scale of 2 inches for 3 feet. A line measured on the model is 11 inches long. How many feet does the line represent?

10. Forty-five percent of the students in a class work half-time or more. There are 40 students in the class. How many students work half-time or more?

11. Out of 80 students, 32 have completed 45 or more units. What percentage of students has completed 45 or more units?

12. Sixty-five percent of the students in a club have signed up for a field trip. If 78 have signed up, how many students are in the club.

Answers:

1a. $\dfrac{2}{5}$        5c. 1.25

1b. $\dfrac{1}{4}$        6a. $\dfrac{1}{4}$

1c. $\dfrac{7}{5}$        6b. $\dfrac{6}{250}$

2a. x = 6        6c. $2\dfrac{1}{5}$

2b. $n = \dfrac{1}{2}$        7a. $6x^3$

3a. 87.5%        7b. $48x^5$

3b. 18.75%        7c. $108x^{14}$

                 7d. 1
3c. 250%        8.   13.8 grams
4a. 21.3%        9.   7.3 feet
4b. 201%         10.  18 students
4c. 2.5%         11.  40%
5a. 0.45         12.  120 students
5b. 0.023