

Name: _____

Date: _____

UNIT 2 • REASONING WITH LINEAR EQUATIONS AND INEQUALITIES

Lesson 1: Creating Linear Equations and Inequalities in One Variable

Practice 2.1.1: Creating Linear Equations in One Variable

B

For problem 1, read each scenario and give the units you would use to work with each situation.

1. What units would you use for the rate of each scenario that follows?
 - a. jogging
 - b. speed of a giant tortoise on land
 - c. speed of light
 - d. cost of mailing a package

For problems 2–10, read each scenario, write an equation, and then use the solution to the equation to complete the problem. Remember to include the appropriate units.

2. The radius of a sphere is measured to be 3.12 cm. What is the most accurate volume of the sphere you can report?
3. The length of a dance floor to be replaced is 1 foot shorter than twice than width. You measured the width to be 12.25 feet. What is the area and what is the most accurate area you can report?
4. Leah's dog consumes four times as many calories a day as her cat. Her cat consumes 240 calories per day. How many calories per day does her dog consume?

continued

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5. It costs Marcus an access fee for each visit to his gym, plus it costs him \$3 in gas for each trip to the gym and back. This month it cost Marcus \$108 for 6 trips to his gym. How much is Marcus's access fee per visit?

6. Rebecca bought x pairs of socks and received a 20% discount. Each pair of socks cost \$4.99. Her total cost without tax was \$23.95. How many pairs of socks did Rebecca buy?

7. Amelia and 2 of her friends went out to lunch. Each girl ordered exactly the same meal. The total cost was \$55.08, which included an 8% tax. What was the price of each meal, not including tax?

8. Alan mowed the lawn and trimmed the hedges in his yard. The amount of time he spent trimming the hedges was $\frac{1}{3}$ the amount of time it took him to mow the lawn. If it took him 1 hour and 15 minutes to mow the lawn, how long did it take him to trim the hedges?

9. The area of a football field is about $\frac{3}{4}$ the size of an international soccer field. The area of a football field, including the end zones, is 57,600 square feet. What is an approximate area of an international soccer field?

10. Alex and Brian park their bikes side-by-side. Alex leaves to visit friends, and Brian leaves 30 minutes later, headed for the same destination. Alex pedals 5 miles per hour slower than Brian. One hour after Brian leaves, he passes Alex. At what speed are they each pedaling?