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   A

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. riding a bicycle

    b. rainfall during a storm

    c. water coming from a fire hydrant

    d. watching caloric intake

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. You need to buy new tile for your kitchen. The kitchen measures 13.25 feet by 7.5 feet. What is the area of the kitchen that you calculated? What is the most accurate area you can report to your hardware store in order to purchase enough tile?

3. Zach watches TV 3 times as much as Joel. Joel watches TV 2 hours a day. How many hours a day does Zach watch TV?

4. It costs Raquel $5 in tolls to drive to work and back each day, plus she uses 3 gallons of gas. It costs her a total of $15.50 to drive to work and back each day. How much per gallon is Raquel paying for her gas? How do you know?

Name: _____   Date: _____

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5. Hayden bought 4 tickets to a football game. He paid a 5% service charge for buying them from a broker. His total cost was $105.00. What was the price of each ticket, not including the service charge?

6. It cost Justin $100 to have cable TV installed in his house. Each month he pays an access fee plus a tax of 7% of his monthly bill. After 6 months, Justin had paid a total of $350.38 for his access fee, taxes, and his initial installation. What is Justin's monthly access fee not including taxes?

7. You and 3 friends divide the proceeds of a garage sale equally. The garage sale earned $412. How much money did you receive?

8. The area of Sofia's herb garden is $\dfrac{1}{8}$ the area of her vegetable garden. The area of her herb garden is 6 square feet. What is the area of her vegetable garden?

9. Driving to your friend's house, you travel at an average rate of 35 miles per hour. On your way home, you travel at an average rate of 40 miles per hour. If the round trip took you 45 minutes, how far is it from your house to your friend's house?

10. Two trains heading toward each other are 400 miles apart. One train travels 15 miles per hour faster than the other train. If they arrive at the same station in 5 hours, how fast is each train traveling?