

Name: _____

Date: _____

UNIT 2 • REASONING WITH LINEAR EQUATIONS AND INEQUALITIES

Lesson 1: Creating Linear Equations and Inequalities in One Variable

Assessment

Progress Assessment

Circle the letter of the best answer.

1. You are redecorating your room and the only thing left to paint is your door. You're only going to paint the side that faces the inside of your room. The door is 6 feet 8 inches tall and 30 inches wide. You need to know the surface area of the side of the door to determine how much paint to buy. The hardware store sells paint by how much covers a square foot. What is the surface area you should report to the hardware store? (*Hint: First find the number of square inches in 1 square foot.*)
 - a. about 16 square feet
 - b. 16.67 square feet
 - c. 16.7 square feet
 - d. about 17 square feet
2. You are participating in a fund-raiser in which you read for donations. People can donate money based on a flat fee or based on the number of minutes you read. So far, you have two donors. Your grandma has agreed to donate \$10 and your mom has agreed to donate \$0.05 per minute. If together they donated \$22.35, and x represents the number of minutes read, what equation represents this situation?
 - a. $(10 + 0.05)x = 22.35$
 - b. $10x + 0.05 = 22.35$
 - c. $0.05x + 10 = 22.35$
 - d. $22.35x = 10 + 0.05$
3. Two friends live 253 miles apart. They drive toward each other on the same highway to meet for a weekend. The first friend drives 5 miles per hour below the speed limit and it takes her 2 hours to meet her friend. The second friend leaves 15 minutes late, and she drives at the speed limit. What was the second friend's speed?
 - a. about 55 mph
 - b. about 60 mph
 - c. about 65 mph
 - d. about 70 mph
4. A carafe at a banquet holds about 12 cups of coffee. When the carafe has 1 cup or less of coffee left, the waiter dumps the coffee out and pours in a fresh pot. Each coffee mug at the banquet holds 6 ounces of coffee. Assuming each person fills his or her mug, what inequality represents the number of people who can fill their mugs before the carafe needs to be refilled? (*Hint: 1 cup = 8 ounces*)
 - a. $12 - 0.75x \leq 1$
 - b. $12 - x \leq 1$
 - c. $12 - 0.75x \geq 1$
 - d. $12 - x \geq 1$

continued

Name: _____

Date: _____

UNIT 2 • REASONING WITH LINEAR EQUATIONS AND INEQUALITIES

Lesson 1: Creating Linear Equations and Inequalities in One Variable

Assessment

5. Geraldine brings a large printing job to her local print shop. She doesn't want to sit and wait for the job to be completed, so she asks when she should come back to pick up her order. The machines print 30 pages per minute and 225 pages printed while she paid for her order. She has less than 1,000 pages left to go. How much longer will it take her order to print?
- a. slightly less than 33 minutes
 - b. slightly less than 41 minutes
 - c. slightly more than 33 minutes
 - d. slightly more than 41 minutes
6. Juan is saving for a new computer and has saved \$213. He is saving \$3 a day and needs at least \$654 for the computer he wants. How many weeks will it take him to save at least enough for the computer he wants?
- a. at most 147 weeks
 - b. at most 21 weeks
 - c. at least 147 weeks
 - d. at least 21 weeks
7. A new grocery store is giving away four \$20 gift certificates to the store every hour to celebrate its grand opening. The store manager wants to save at least 24 of the certificates to give to a local food bank. If there are 120 gift certificates to start with, for how many hours should the store continue giving them away?
- a. greater than or equal to 24 hours
 - b. less than or equal to 24 hours
 - c. less than 24 hours
 - d. greater than 24 hours
8. Smita wants to buy a humidifier listed online for \$25.17, but she must also pay a 7% sales tax and \$10 shipping fee. What is the total amount Smita will pay?
- a. \$27.62
 - b. \$36.93
 - c. \$37.63
 - d. \$35.17
9. A store has a display with magnets for sale. The store typically sells 7 magnets a day, and the display holds 49 magnets. The store manager insists there be no fewer than 30 magnets in the display. When should the display be restocked?
- a. in 3 days or more
 - b. in 3 days or less
 - c. in less than 3 days
 - d. in more than 3 days

continued

Name: _____

Date: _____

UNIT 2 • REASONING WITH LINEAR EQUATIONS AND INEQUALITIES

Lesson 1: Creating Linear Equations and Inequalities in One Variable

Assessment

10. You have \$60 to spend. You want to buy a drink that costs \$3.21 including tax, and a coat that will have an 8% sales tax. Which inequality represents the amount of money you can spend on the coat?
- a. $x + 0.08x + 3.21 \leq 60$ c. $x + 0.08x + 3.21 < 60$
b. $x + 0.08x + 3.21 > 60$ d. $x + 0.08x + 3.21 \geq 60$

Use the given information to solve the problem.

11. Your car broke down, and the final bill for the repairs was \$261.50. The part that was replaced cost \$99, and the charge for the mechanic's labor is \$65 per hour. Write an equation to model this situation, then solve the equation for the number of hours the mechanic worked on your car.