

Name: _____

Date: _____

UNIT 2 • REASONING WITH LINEAR EQUATIONS AND INEQUALITIES

Lesson 1: Creating Linear Equations and Inequalities in One Variable

Practice 2.1.2: Creating Linear Inequalities in One Variable

A

For problems 1 and 2, translate each phrase into an algebraic inequality.

1. A tour bus can seat 55 passengers.
2. An energy-efficient lamp can only be used with light bulbs that are 60 watts or less.

For problems 3–9, read each scenario, write an inequality to model the scenario, and then use the inequality to solve the problem.

3. Camilla is saving to purchase a new pair of bowling shoes that will cost at least \$39. She has already saved \$19. What is the least amount of money she needs to save for the shoes?
4. Suppose you earn \$20 per hour working part time at a tax office. You want to earn at least \$1,800 this month, before taxes. How many hours must you work?
5. Hiram earned a score of 83 on his semester algebra test. He needs to have a total of at least 180 points from his semester and final tests to receive an A for his grade. What score must Hiram earn on his final test to ensure his A?
6. Claire buys DVDs online. Each DVD that she orders costs \$15 and shipping for her order is \$10. Claire can spend no more than \$100. How many DVDs can she buy?

continued

SWB p. 25

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7. The temperature outside is dropping at a rate of 1.5 degrees each hour. It is raining, and the weather station predicts a changeover from rain to sleet when the temperature reaches 32°F or below. Currently the temperature is 53°F and the time is 8:30 A.M. When do you predict the changeover to sleet will occur?

8. A recreation center holds a soccer game every Saturday morning for older teens. The group agreed that there should be at least 5 players on each team. One team started out with 17 players. After an hour of playing, 3 players started leaving every 5 minutes. At most, for how long can the team keep playing?

9. The owners of a website have no more than \$15,000 to give away for a contest. They have decided to give away \$1,000 twice a day every day until there is no more than \$3,000 left to award as a grand prize. How many days will the contest run?

For problem 10, create your own context for the given inequality, and then solve the inequality. Be sure to express your solution in terms of the context of the problem.

10. $2x - 5 \leq 9$