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LESSON 13 Writing Inequalities

An **inequality** is a number sentence that compares two expressions. An inequality can represent a relationship.

A truck driver earns \$0.50 for each mile he drives. He earned at least \$1,000 last week. If n = the number of miles driven, write an inequality to represent this situation.

At least means the same as “greater than or equal to.” The problem says that \$0.50 multiplied by n is greater than or equal to \$1,000. The inequality is $0.50n \geq 1,000$.

Inequality signs:

$>$ means “is greater than.”

$<$ means “is less than.”

\geq means “is greater than or equal to.”

\leq means “is less than or equal to.”

Read each problem. Circle the letter of the best answer.

- 1** Nora has 15 dresses in her closet. She wants to give some away so that she has at most 8 dresses left. Which inequality represents this situation?

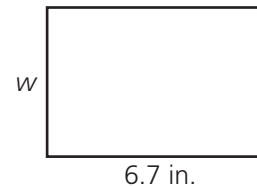
- A** $n - 15 \leq 8$
- B** $n - 15 \geq 8$
- C** $15 - n \leq 8$
- D** $15 - n \geq 8$

At most means “less than or equal to.” If Nora starts with 15 dresses and gives n dresses away, the result should be less than or equal to 8, so write $15 - n \leq 8$. The correct answer is C.

- 2** Two-thirds of a certain number is greater than five. Which inequality shows this?

- A** $\frac{2}{3}x > 5$
- B** $\frac{2}{3}x < 5$
- C** $x + \frac{2}{3} > 5$
- D** $x + \frac{2}{3} < 5$

- 3** The area of this rectangle is at most 38 square inches. Which inequality represents this relationship?



- A** $w + 6.7 \geq 38$
- B** $w + 6.7 \leq 38$
- C** $6.7w \geq 38$
- D** $6.7w \leq 38$

- 4** Pedro scored 11 points in the first half of a basketball game. Which inequality could be solved for p , the number of points he must score in the second half to reach a total of at least 20 points?

- A** $11p \geq 20$
- B** $11p \leq 20$
- C** $11 + p \geq 20$
- D** $11 + p \leq 20$

Read each problem. Write your answers.

5 Jordan's family adopted 3 kittens from the local animal shelter. After they adopted these kittens, there were less than 25 kittens left at the animal shelter.

A If k = the number of kittens at the animal shelter before Jordan's family adopted 3 of them, write an inequality to represent this situation.

Answer: _____

B Explain how you found your answer.

6 A large pizza at Celeste's Pizza Parlor is divided into 12 equal pieces. Celeste says that each piece weighs at least 4 ounces.

A If w = the weight in ounces of the whole pizza, write an inequality to describe this situation.

Answer: _____

B Explain how you know your inequality is correct.

C If $w = 50$, is the inequality true? Explain why or why not.
