Name_____ Date_____ Period_____

LESSON 8-4 · SESSION 2 · PRACTICE · FORM B

Representing Inequalities

Learning target – I can represent an inequality with a set of solutions and describe them. · 6.EE.B.8

REMEMBER

- **Closed** (filled) circle: the boundary counts (≤, ≥). **Open** circle: it does not (<, >).
- Arrow **left** for less than. Arrow **right** for greater than.
- Check the story: people and tickets come only in **whole numbers**.

WORKED EXAMPLE

An elevator allows no more than 8 people. Show the solutions for p.

Step 1 Write the rule: $p \leq 8$.

Step 2 "No more than" includes 8, so draw a closed circle at 8 and an arrow left.

Step 3 People come in whole numbers: 0, 1, 2, … , 8.

Answer **$p \leq 8$, whole numbers 0 to 8**

WORDS **number line** *(recta numérica)* · **open circle** *(círculo abierto)* · **closed circle** *(círculo cerrado)*

PRACTICE

show your work · label units

1. Write the inequality for each graph. Use x.

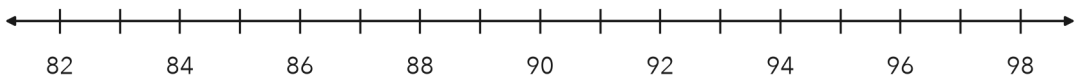
a. open circle at 2, arrow left ____

b. closed circle at −3, arrow right ____

c. closed circle at 5, arrow left ____

d. open circle at −1, arrow right ____

2. **Meeting Room.** A meeting room may hold at most 90 people at one time.

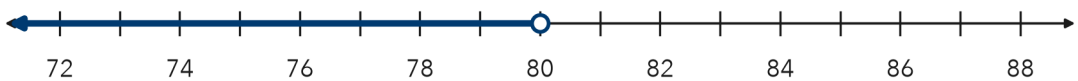


a. Write an inequality for n, the number of people. _____

b. Graph it on the number line.

3. **Fish Tank.** The graph shows the safe water temperatures, t, for a fish tank. Write the inequality. Is 80 degrees a solution?

Hint *Look at the circle at 80. Is it open or closed?*



Answer_____

4. Locker Bag. A bag must be shorter than 24 inches to fit in a locker. Write an inequality for h. Name two solutions and one non-solution.

Show your work.

Answer _____

5. Lab Station. A lab station may hold at most 6 students. Write an inequality for s. Is 6 a solution?

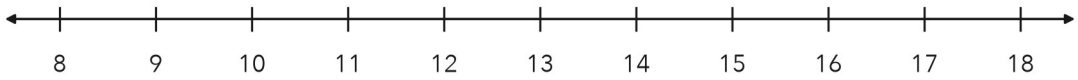
Hint *"At most" includes the boundary.*

Show your work.

Answer _____

6. Parade Float. A float must be shorter than 13 feet to pass under a bridge.

Hint *"Shorter than" leaves the boundary out.*



a. Write an inequality for h. _____

b. Graph it on the number line.

7. Name Solutions. For $n > 4$, name three solutions and one number that is not a solution.

Show your work.

Answer _____

8. Delivery Limit. A van's load, w, must be at least 40 pounds and at most 800 pounds.

a. Write both inequalities. _____

b. Name three loads that fit both rules. _____

c. Why is 800 pounds allowed but 801 pounds is not? _____

FIND THE ERROR

explain the mistake, then fix it

9. Theo's Work. A study hall may seat at most 32 students. Theo wrote $s < 32$. Explain his mistake. Write the correct inequality.

_____

_____

_____

TEST PRACTICE

choose the best answer

10. Which value is a solution of $n \leq 9$?

A 9 **B** 9.5 **C** 10 **D** 12

11. Which value is NOT a solution of $x \leq 7$?

A 7 **B** 6.5 **C** 0 **D** 7.5

SELF-CHECK CODE *find your answer · copy its letter into that problem's box · spell a math word*

n < 90 **Q**	t ≤ 80 **Z**	s < 6 **X**	w ≥ 40 **S**	h < 13 **W**	w > 40 **J**	s ≤ 6 **O**	h < 24 **R**	n ≤ 90 **A**	t < 80 **R**

#2a	#3	#4	#5	#6a	#8a

CHECK YOURSELF	☐ I can do this on my own	☐ I need a little help	☐ I have a question about #___