Name_____ Date_____ Period_____

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

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.

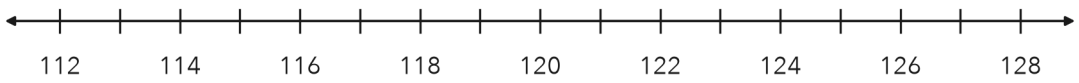
a. open circle at 4, arrow right ____

b. closed circle at −1, arrow left ____

c. closed circle at 6, arrow right ____

d. open circle at 0, arrow left ____

2. Meeting Room. A meeting room may hold at most 120 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 78 degrees a solution?

Hint *Look at the circle at 78. Is it open or closed?*



Answer_____

4. Locker Bag. A bag must be shorter than 22 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 5 students. Write an inequality for s. Is 5 a solution?

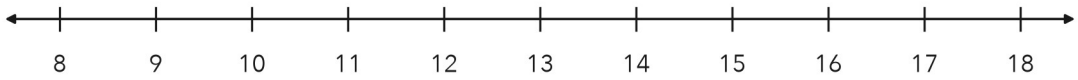
Hint *"At most" includes the boundary.*

Show your work.

Answer _____

6. Parade Float. A float must be shorter than 14 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 $n > 7$, 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 50 pounds and at most 900 pounds.

a. Write both inequalities. _____

b. Name three loads that fit both rules. _____

c. Why is 900 pounds allowed but 901 pounds is not? _____

FIND THE ERROR

explain the mistake, then fix it

9. Zuri's Work. A sign says: "Carry no more than 6 items into the fitting room." Zuri wrote $i < 6$. Explain her mistake. Write the correct inequality.

_____

_____

_____

TEST PRACTICE

choose the best answer

10. Which value is a solution of $n > 5$?

A 3 **B** 5 **C** 4.9 **D** 6

11. Which value is NOT a solution of $x \geq 4$?

A 4 **B** 3.5 **C** 7 **D** 10

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

h < 14	s < 5	w > 50	t < 78	w ≥ 50	n ≤ 120	t ≤ 78	s ≤ 5	h < 22	n < 120
L	X	J	I	E	C	Z	C	R	Q

#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 #___