Name_____ Date_____ Period_____

LESSON 8-4 · SESSION 1 · PRACTICE · FORM A

Writing Inequalities

Learning target – I can write an inequality that describes a constraint in a real situation. · 6.EE.B.8

REMEMBER

- **At least** = that number or more (≥). **More than** = greater, not equal (>).
- **At most**, **no more than**, **maximum** = that number or less (≤). **Less than**, **fewer than** = <.
- Ask: is the boundary number **allowed**? Then choose the symbol.

WORKED EXAMPLE

A van can carry at most 8 riders. Write an inequality for *r*, the riders.

Step 1 Key words: "at most." Is 8 allowed? Yes.

Step 2 "At most" means less than or equal to: $r \leq 8$.

Step 3 Test: 8 works, 5 works, 9 does not.

Answer $r \leq 8$

WORDS **inequality** *(desigualdad)* · **at least** *(al menos)* · **constraint** *(restricción)*

PRACTICE

show your work · label units

1. Write an inequality for each phrase. Use *x*.

a. at least 18 ____

b. at most 7 ____

c. more than 25 ____

d. fewer than 12 ____

e. no more than 15 ____

f. a minimum of 4 ____

2. Write an inequality for each rule. Use the variable given.

Rule	Inequality
A person must be at least 13 to see the film. (*a*)	
A project needs more than 85 points to earn a ribbon. (*p*)	
A lifeguard must train at least 30 hours. (*h*)	
A backpack may weigh no more than 15 pounds. (*w*)	

3. **Ticket Sales Goal.** A club meets its goal when it sells at least 150 tickets. Write an inequality for *t*. Name two solutions.

Hint *"At least" lets 150 count.*

Answer_____

4. Phone Storage. A game needs more than 9 GB of free space. Write an inequality for g. Does exactly 9 GB work?

Hint *Is 9 itself allowed?*

Show your work.

Answer_____

5. Trip Chaperones. Every bus needs at least 4 chaperones. One bus has 3. Write an inequality for c. Does this bus meet the rule?

Show your work.

Answer_____

6. Uniform Order. A team gets a bulk price when it orders at least 25 shirts. Write an inequality for s. Name two solutions.

Hint *Decide whether 25 counts before you pick a symbol.*

Answer_____

7. Read It Back. An elevator sign reads "Maximum 12 passengers."

Hint *"Maximum" means at most.*

a. Write an inequality for p, the passengers. _____

b. Are 12 passengers allowed? Explain. _____

8. Ride Rules. Riders must be at least 42 inches tall and no taller than 76 inches. Let h = height in inches.

a. Write an inequality for the lower limit. _____

b. Write an inequality for the upper limit. _____

c. Name two heights that fit both rules and one that does not. _____

FIND THE ERROR

explain the mistake, then fix it

9. Malik's Work. A sign reads: "You must be at least 48 inches tall to ride." Malik wrote $h > 48$. Explain his mistake. Write the correct inequality.

_____

_____

_____

TEST PRACTICE

choose the best answer

10. "At least 20" is written –

A $x > 20$ **B** $x \geq 20$ **C** $x < 20$ **D** $x \leq 20$

11. "At most 9" is written –

A $x < 9$ **B** $x \leq 9$ **C** $x > 9$ **D** $x \geq 9$

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

$c \geq 4$ **M**	$t \geq 150$ **S**	$h \geq 42$ **L**	$t > 150$ **Q**	$g > 9$ **Y**	$c > 4$ **J**	$g \geq 9$ **Z**	$s \geq 25$ **B**	$p \leq 12$ **O**	$p < 12$ **X**

#3	#4	#5	#6	#7a	#8a

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