LESSON MAKER PRO

What Counts?

Find the values that make sense in each situation.

GRADE 7 · 7.AT.C.9.c

7.AT.C.9.c "Interpret the solution set in terms of the context by describing what values are possible or reasonable in the given situation."

NAME _____ DATE _____

POSSIBLE VALUES

Solve the inequality, then check what the answer means. If you are counting whole items, use whole numbers and do not include negative counts.

WORKED EXAMPLE

Passes cost $6 each. You have at most $35. How many passes can you buy?

PASS COSTS

Passes	Cost
0	$0
5	$30
6	$36

1. Write $6x \le 35$.
2. Divide by 6: $x \le 35/6$.
3. Passes come in whole numbers, so x can be 0 through 5.

Answer: 0, 1, 2, 3, 4, or 5 passes

PRACTICE 4 problems

1 Each bracelet needs 8 beads. You have 26 beads. What whole numbers of bracelets can you make?

ANSWER _____

2 You have 18 points and earn 9 per round. Which whole numbers of rounds will get you at least 42 points?

ANSWER _____

3 A pitcher holds at most 2 liters and already contains 3/4 liter. What amounts of water, x, can you add?

ANSWER _____

4 You have 13 points and gain 8 per win. Which whole numbers of wins will get you at least 50 points?

ANSWER _____

APPLY IT Show your work

1 Your playlist has a 2-minute intro. Each song lasts 3 minutes. The playlist can be at most 23 minutes long. How many songs can you add?

WORK SPACE

ANSWER _____

2 You have 21 points toward an 80-point game badge. Each quest earns 13 points. How many quests will earn you the badge?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A movie night has $64. Renting a room costs $19, and each ticket costs $8. The group needs at least 4 tickets. Which ticket counts fit the budget? Explain.

WORK SPACE AND ANSWER

ANSWER KEY

What Counts?

GRADE 7 · 7.AT.C.9.c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Each bracelet needs 8 beads. You have 26 beads. What whole numbers of bracelets can you make?	**0, 1, 2, or 3 bracelets**
2	You have 18 points and earn 9 per round. Which whole numbers of rounds will get you at least 42 points?	**3 or more rounds**
3	A pitcher holds at most 2 liters and already contains 3/4 liter. What amounts of water, x, can you add?	**Any amount from 0 to 5/4 liters, including both endpoints**
4	You have 13 points and gain 8 per win. Which whole numbers of wins will get you at least 50 points?	**5 or more wins**

PART 2 · APPLY IT

1. **0 through 7 whole songs** Solve $2 + 3x \leq 23$ to get $x \leq 7$. A song count must be a nonnegative whole number.
2. **5 or more whole quests** Solve $21 + 13x \geq 80$ to get $x \geq 59/13$. The least possible whole number of quests is 5.

CHALLENGE

4 or 5 tickets. The budget gives $19 + 8x \leq 64$, so $x \leq 45/8$. Ticket counts must be whole numbers, and the group needs at least 4.

Accept ranges or lists that include exactly the stated possible values. For the pitcher, accept $0 \leq x \leq 5/4$ liters.