

Grade 6 · Writing and Graphing Inequalities · Quiz

Common Core 6.EE.B.5, 6.EE.B.8 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

This 10-question multiple-choice quiz checks inequalities in Grade 6: symbols, solutions, number line graphs, and real-world situations (6.EE.B.5 and 6.EE.B.8). Pick one answer for each question and read the explanation.

Grade 6 Common Core: 6.EE.B.5 · 6.EE.B.8

Questions

Question 1

Which symbol means "at least"?

- A. $>$
- B. $\leq$
- C. $<$
- D. $\geq$

Question 2

Which number is a solution of $x > 8$?

- A. 8.1
- B. 8
- C. 7.5
- D. 7

Question 3

Which number is NOT a solution of $x \leq 4$?

- A. 4
- B. 4.5
- C. 3.9
- D. 0

Question 4

Which inequality does the graph show?



Graph for question 4.

- A. $x > 3$
- B. $x \geq 3$
- C. $x < 3$
- D. $x \leq 3$

Question 5

Which inequality does the graph show?



Graph for question 5.

- A. $x \leq 6$
- B. $x < 6$
- C. $x \geq 6$
- D. $x > 6$

Question 6

A bus holds at most 40 riders. Which inequality describes the number of riders r ?

- A. $r \geq 40$
- B. $r < 40$
- C. $r > 40$
- D. $r \leq 40$

Question 7

How many solutions does $x > 5$ have?

- A. Exactly one
- B. Exactly five
- C. Infinitely many
- D. None

Question 8

What does the graph of $x \geq 7$ look like?

- A. An open circle at 7 with shading to the right
- B. A closed circle at 7 with shading to the left
- C. A closed circle at 7 with shading to the right
- D. An open circle at 7 with shading to the left

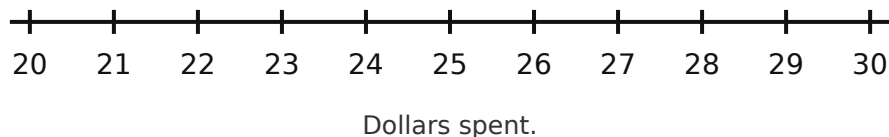
Question 9

A ride requires $h \geq 48$ inches. Which height meets the requirement?

- A. 47.9 in.
- B. 48 in.
- C. 45.5 in.
- D. 4.8 in.

Question 10

A store coupon works when a customer spends more than . Which inequality describes the amount spent s ?



- A. $s \geq 25$
- B. $s < 25$
- C. $s \leq 25$
- D. $s > 25$

Answer key

1. **D** - At least means greater than or equal to, so the symbol is $\geq$. The symbol $>$ leaves out the boundary value.
2. **A** - $8.1 > 8$ is true. The number 8 is not a solution, because $8 > 8$ is false.
3. **B** - $4.5 \leq 4$ is false. The number 4 is a solution, since $4 \leq 4$ is true.
4. **A** - An open circle means 3 is not included, and shading to the right means greater values, so $x > 3$.
5. **A** - A closed circle includes 6, and shading left means lesser values, so $x \leq 6$.
6. **D** - At most 40 includes 40 and everything below it, so $r \leq 40$. Choosing $r \geq 40$ reverses the direction.
7. **C** - Every number greater than 5, including decimals such as 5.01, is a solution, so there are infinitely many.
8. **C** - The symbol $\geq$ includes 7, so the circle is closed, and greater values lie to the right.
9. **B** - $48 \geq 48$ is true, so exactly 48 in. is allowed. A height of 47.9 in. is just under the limit.
10. **D** - More than does not include itself, so the inequality is $s > 25$, not $s \geq 25$.

Remember:

- A solution of an inequality is any value that makes it true: 7 is a solution of $x > 5$.
- Open circle for $<$ and $>$; closed circle for $\leq$ and $\geq$.
- Shade right for greater values and left for lesser values.
- "At least" means $\geq$ and "at most" means $\leq$.