

Grade 6 - Inequalities on the Number Line - Quiz

Common Core 6.EE.B.5, 6.EE.B.8 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

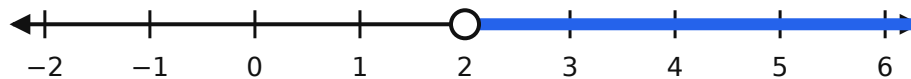
This quiz has 10 multiple-choice questions on inequalities and number-line graphs (Common Core 6.EE.B.5 and 6.EE.B.8). Choose one answer for each question and read the explanation to see each common mistake.

Grade 6 · Common Core State Standards: **6.EE.B.5**, **6.EE.B.8**

Questions

Question 1

Which graph shows $x > 2$?



Graph.

- A. An open circle at 2 with a ray to the right
- B. A closed circle at 2 with a ray to the right
- C. An open circle at 2 with a ray to the left
- D. A closed circle at 2 with a ray to the left

Question 2

Which number is a solution of $x \leq 7$?

- A. 8
- B. 7.1
- C. 7
- D. 70

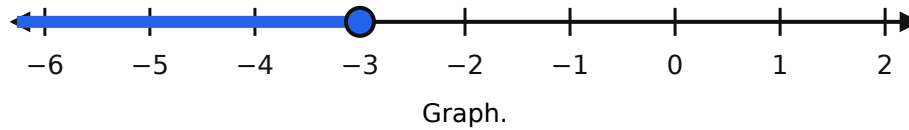
Question 3

Which inequality means "at least 10"?

- A. $x > 10$
- B. $x \geq 10$
- C. $x \leq 10$
- D. $x < 10$

Question 4

Which inequality matches the graph?



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

Question 5

How many solutions does $x \geq 7$ have?

- A. Infinitely many
- B. Exactly 7
- C. Exactly 1
- D. None

Question 6

A sign says "Maximum weight: 200 pounds." Which inequality shows the allowed weight w ?

- A. $w \geq 200$
- B. $w < 200$
- C. $w \leq 200$
- D. $w > 200$

Question 7

Is 6 a solution of $x+3>9$?

- A. Yes, because $6 > 3$
- B. No, because $9 > 9$ is false
- C. Yes, because $6+3=9$
- D. No, because $6 < 3$

Question 8

Which graph shows $x < 4$?



Graph.

- A. A closed circle at 4 with a ray to the left
- B. An open circle at 4 with a ray to the left
- C. An open circle at 4 with a ray to the right
- D. A closed circle at 4 with a ray to the right

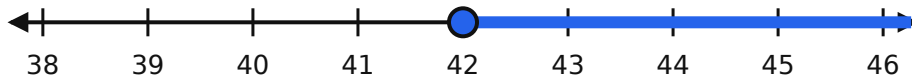
Question 9

Which is a solution of $x > -3$?

- A. -3
- B. -4
- C. -10
- D. -2

Question 10

A child must be at least 42 inches tall to ride. Which statement is true?



Heights that can ride.

- A. A child 42 inches tall cannot ride
- B. Only children over 42 inches can ride
- C. A child 41 inches tall can ride
- D. A child 42 inches tall can ride

Answers

1. **A** – Greater than does not include 2, so the circle is open, and numbers greater than 2 are to the right.
2. **C** – 7 is less than or equal to 7. The others are greater.
3. **B** – At least 10 includes 10 and anything greater.
4. **A** – Closed circle means -3 is included, and the ray goes left.
5. **A** – Every number 7 or greater works, including decimals.
6. **C** – Maximum means 200 is allowed and so is anything less.
7. **B** – Substitute: $6+3=9$, and 9 is not greater than 9.
8. **B** – Less than excludes 4 and points left.
9. **D** – -2 is to the right of -3. -3 is not greater than itself.
10. **D** – At least 42 includes 42.

Remember

- An inequality uses $<$, $>$, $\leq$, or $\geq$ and usually has infinitely many solutions.
- Open circle: the number is not included ($<$ or $>$).
- Closed circle: the number is included ($\leq$ or $\geq$).
- Shade right for greater values and left for lesser values.
- At least means $\geq$ and at most or no more than means $\leq$.