

Grade 6 · Writing and Graphing Inequalities · Test

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

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

This 45-minute test covers writing, testing, and graphing inequalities (6.EE.B.5 and 6.EE.B.8). It has 9 questions worth 20 points. Show your work for each question and draw your graphs neatly with a pencil; calculators are not needed.

Test information

- **Grade:** Grade 6
- **Chapter:** Writing and Graphing Inequalities
- **Common Core:** 6.EE.B.5, 6.EE.B.8
- **Time:** 45 minutes
- **Total:** 20 points (Question 1: 2 pts; Question 2: 2 pts; Question 3: 2 pts; Question 4: 2 pts; Question 5: 2 pts; Question 6: 3 pts; Question 7: 3 pts; Question 8: 2 pts; Question 9: 2 pts)

Question 1: Writing with Symbols (2 points)

Write an inequality for each statement.

- x is less than 8 (1 point)
- y is at least 15 (1 point)

Question 2: Testing Solutions (2 points)

Decide whether the value is a solution of the inequality.

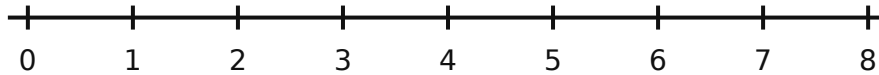
- $x > 5$; $x = 5$ (1 point)
- $n \leq 7.5$; $n = 7.5$ (1 point)

Question 3: Listing Solutions (2 points)

Give three different solutions of $x \geq 10$ (1 point) and one number that is not a solution (1 point).

Question 4: Graphing an Inequality (2 points)

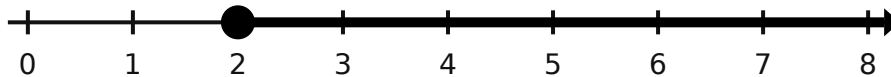
Graph $x < 4$ on the number line. Draw a circle and shade the solutions. (2 points)



Number line for question 4.

Question 5: Reading a Graph (2 points)

Write the inequality shown by the graph. (2 points)



Graph for question 5.

Question 6: Greater Than or Equal To (3 points)

Compare the inequalities $x > 3$ and $x \geq 3$.

- Is 3 a solution of $x > 3$? (1 point)
- Is 3 a solution of $x \geq 3$? (1 point)
- Explain how the graphs of the two inequalities differ. (1 point)

Question 7: Elevator Limit (3 points)

A sign in an elevator says that it holds at most 12 people. Let p be the number of people riding.

- Write an inequality for p . (1 point)
- Is $p = 12$ a solution? (1 point)
- The value $p = 12.5$ satisfies the inequality. Explain why it is not a reasonable answer in this situation. (1 point)

Question 8: Bake Sale Goal (2 points)

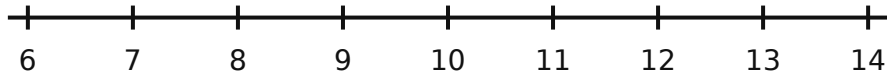
The school bake sale needs to raise at least \$150. Let d be the total dollars raised.

- Write an inequality for d . (1 point)

b. Decide whether \$150 and \$149.99 meet the goal. (1 point)

Question 9: Game Rating (2 points)

A video game is rated for players older than 9 years. Let a be a player's age. Write an inequality and graph it on the number line. (2 points)



Number line for question 9.