

Grade 7 · Two-Step Inequalities · Test

Common Core 7.EE.B.4b · mathovore.fr

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

This 45-minute test covers Common Core 7.EE.B.4b. Solve each two-step inequality, graph solution sets, and interpret answers in real situations. Show every step. The test is worth 20 points.

Test information

- **Grade:** Grade 7
- **Chapter:** Two-Step Inequalities
- **Common Core:** 7.EE.B.4b
- **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: 2 pts; Question 7: 3 pts; Question 8: 3 pts; Question 9: 2 pts)

Question 1: Solve and graph (2 points)

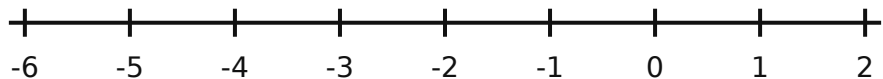
Solve $3x+4>19$. Graph the solution on the number line.



Number line for question 1.

Question 2: Negative coefficient (2 points)

Solve $-5x-3\leq 12$. Graph the solution on the number line.



Number line for question 2.

Question 3: Testing values (2 points)

Consider the inequality $4x - 7 < 5$. Tell whether each value is a solution.

- a. $x = 2$ (1 point)
- b. $x = 3$ (1 point)

Question 4: Find the error (2 points)

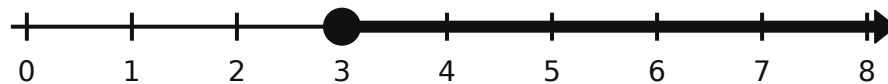
Ethan solved $-4x + 6 > 22$ like this: $-4x > 16$, so $x > -4$. Explain his mistake and give the correct solution.

Question 5: Fraction coefficient (2 points)

Solve $\frac{x}{4} - 3 \geq 2$.

Question 6: Reading a graph (2 points)

The graph shows the solution set of an inequality.



Graph for question 6.

- a. Write the inequality that the graph shows. (1 point)
- b. Complete a two-step inequality with this solution set: $2x + 1 \geq \underline{\hspace{1cm}}$. (1 point)

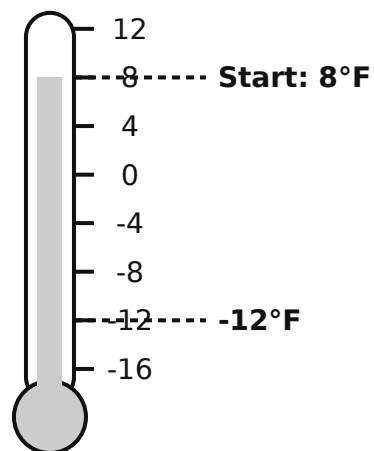
Question 7: Saving for a skateboard (3 points)

Liam has \$40 and saves \$6 each week. He needs more than \$100 for a skateboard.

- a. Write an inequality for the number of weeks w . (1 point)
- b. Solve the inequality. (1 point)
- c. What is the fewest whole number of weeks Liam must save? (1 point)

Question 8: Freezer cooling (3 points)

A freezer starts at 8°F and cools by 4°F every hour.



The freezer starts at 8°F .

- Write an inequality for the number of hours h until the temperature is below -12°F . (1 point)
- Solve it. (1 point)
- Interpret the solution in a sentence. (1 point)

Question 9: Solve with a leading constant (2 points)

Solve $7 - 2x \geq 15$.