

Grade 7 - Two-Step Inequalities - Quiz

Common Core 7.EE.B.4b · maths-pdf.fr/en/

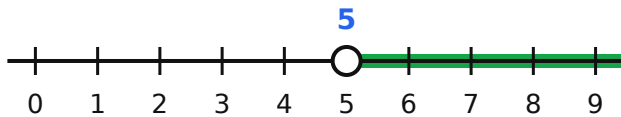
Name: _____ Class: _____ Date: ____/____/____

Answer all 10 multiple-choice questions on solving two-step inequalities, graphing solution sets on a number line, and interpreting solutions in context. Pick the single best answer, then read the explanation to see why it is right and which common mistake each wrong choice shows. A score of 8 or more means you are ready for the test.

Grade 7 · Common Core State Standards: **7.EE.B.4b**

Questions

Question 1



What is the solution of $3x - 6 > 9$?

- A. $x < 5$
- B. $x > 1$
- C. $x > 15$
- D. $x > 5$

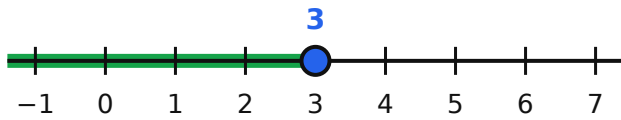
Question 2



What is the solution of $-5x < 20$?

- A. $x > -4$
- B. $x < -4$
- C. $x > 4$
- D. $x < 4$

Question 3



Which graph feature shows $x \leq 3$?

- A. An open circle at 3 with shading to the left
- B. A closed circle at 3 with shading to the left
- C. A closed circle at 3 with shading to the right
- D. An open circle at 3 with shading to the right

Question 4

What is the solution of $x/2 + 4 \geq 7$?

- A. $x \leq 6$
- B. $x \geq 6$
- C. $x \geq 1.5$
- D. $x \geq 22$

Question 5

Which value is a solution of $2x + 1 < 9$?

- A. $x = 4$
- B. $x = 5$
- C. $x = 3$
- D. $x = 8$

Question 6

Sofia needs at least 45 points. She has 12 and earns 3 per game. Which inequality finds the games g ?

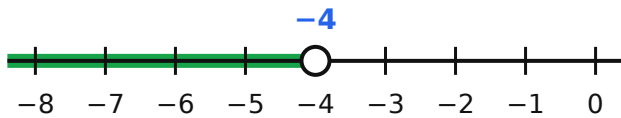
- A. $3g + 12 \geq 45$
- B. $3g + 12 \leq 45$
- C. $3g + 12 > 45$
- D. $3g - 12 \geq 45$

Question 7

What is the solution of $4(x + 2) \leq 20$?

- A. $x \geq 3$
- B. $x \leq 3$
- C. $x \leq 7$
- D. $x \leq 18$

Question 8



What is the solution of $-x+3>7$?

- A. $x > -4$
- B. $x < 4$
- C. $x > 4$
- D. $x < -4$

Question 9

A bus holds at most 40 people and 6 are on. Which inequality shows the number n who can still board?

- A. $n+6 \leq 40$
- B. $n+6 \geq 40$
- C. $n+6 < 40$
- D. $n-6 \leq 40$

Question 10

Which statement is true about the solution set of $x > 2$?

- A. It includes 2
- B. It includes only whole numbers
- C. It includes 2.5 but not 2
- D. It stops at 10

Answers

1. **D** - Add 6: $3x > 15$; divide by 3: $x > 5$.
2. **A** - Dividing by -5 reverses the symbol: $x > -4$.
3. **B** - At most 3 includes 3 (closed) and goes down (left).
4. **B** - Subtract 4: $x/2 \geq 3$; multiply by 2: $x \geq 6$.
5. **C** - $2(3)+1=7 < 9$ is true. At 4, the value is 9, which is not less than 9.
6. **A** - At least means greater than or equal to, so use $\geq$.
7. **B** - Divide by 4: $x+2 \leq 5$; subtract 2: $x \leq 3$.
8. **D** - Subtract 3: $-x > 4$; multiply by -1 and reverse: $x < -4$.
9. **A** - At most means $\leq$, and the total is $n+6$.
10. **C** - The solutions are all numbers greater than 2, so 2.5 works and 2 does not.

Remember

- Solve $px+q>r$ with the same steps as an equation.
- Reverse the symbol when you multiply or divide both sides by a negative number.
- Use an open circle for $<$ and $>$, and a closed circle for $\leq$ and $\geq$.
- Shade the side of the number line that contains the solutions.
- Interpret the solution set in the context of the problem.