

Algebra 1 - Linear Inequalities in One Variable - Quiz

Common Core A-REI.B.3, A-CED.A.1 · maths-pdf.fr/en/

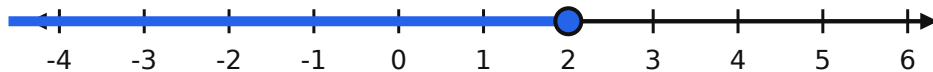
Name: _____ Class: _____ Date: ____/____/____

Try these 10 multiple-choice questions on linear inequalities (A-REI.B.3 and A-CED.A.1). Pick one answer for each question, then read the explanation to see why it is right and which mistake the other choices come from. Retake the quiz until every answer feels easy.

Algebra 1 · Common Core State Standards: **A-REI.B.3, A-CED.A.1**

Questions

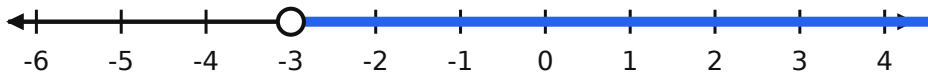
Question 1



Which inequality does the graph show?

- A. $x < 2$
- B. $x \leq 2$
- C. $x \geq 2$
- D. $x > 2$

Question 2



Which inequality does the graph show?

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

Question 3

Solve $2x + 3 < 11$.

- A. $x > 4$
- B. $x < 7$
- C. $x < 4$
- D. $x < 5.5$

Question 4

Solve $-4x \geq 12$.

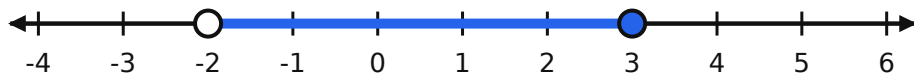
- A. $x \leq -3$
- B. $x \geq -3$
- C. $x \leq 3$
- D. $x \geq 3$

Question 5

Solve $5 - x > 2$.

- A. $x > 3$
- B. $x < -3$
- C. $x > -3$
- D. $x < 3$

Question 6



Which compound inequality does the graph show?

- A. $-2 \leq x < 3$
- B. $-2 < x < 3$
- C. $-2 \leq x \leq 3$
- D. $-2 < x \leq 3$

Question 7

A ride costs \$5 and Maya has \$42. What is the greatest number of rides she can afford?

- A. 9 rides
- B. 10 rides
- C. 8 rides
- D. 37 rides

Question 8

Which value is a solution of $3x - 2 \geq 10$?

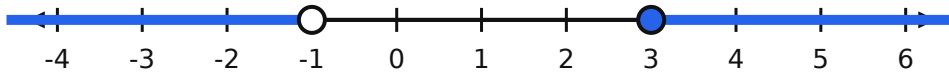
- A. $x=5$
- B. $x=3$
- C. $x=2$
- D. $x=0$

Question 9

Solve $3(x-1) > x+5$.

- A. $x > 1$
- B. $x > 4$
- C. $x < 4$
- D. $x > -4$

Question 10



Which statement matches the graph?

- A. $x < -1$ or $x \geq 3$
- B. $x \leq -1$ or $x > 3$
- C. $-1 < x \leq 3$
- D. $x > -1$ or $x \leq 3$

Answers

1. **B** – The circle is closed (2 included) and the ray points left, so $x \leq 2$.
2. **B** – The circle is open (-3 not included) and the ray points right.
3. **C** – Subtract 3 to get $2x < 8$, then divide by 2. The symbol does not change.
4. **A** – Dividing by -4 reverses the symbol and gives -3.
5. **D** – Subtract 5: $-x > -3$. Multiply by -1 and reverse the symbol: $x < 3$.
6. **D** – The open circle at -2 means -2 is excluded; the closed circle at 3 means 3 is included.
7. **C** – Solve $5r \leq 42$: $r \leq 8.4$. She cannot buy part of a ride, so round down to 8.
8. **A** – Substitute: $3(5) - 2 = 13 \geq 10$ is true. The other values give 7, 4, and -2, which are less than 10.
9. **B** – Distribute: $3x - 3 > x + 5$. Then $2x > 8$ and $x > 4$. Forgetting to move 3 gives $x > 1$.
10. **A** – Two rays pointing away from each other mean an or inequality. The open circle is at -1 and the closed circle at 3.

Remember

- Use an open circle for $<$ and $>$, and a closed circle for $\leq$ and $\geq$.
- Adding or subtracting the same number never changes the inequality symbol.
- Multiplying or dividing both sides by a negative number reverses the symbol.
- An and inequality is true between endpoints; an or inequality is true on two rays.
- “At least” means $\geq$ and “at most” means $\leq$.