

Algebra 1 - Graphing Linear Equations - Quiz

Common Core A-REI.D.10, F-IF.C.7a, A-CED.A.2 · maths-pdf.fr/en/

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

Try these 10 multiple-choice questions on graphing linear equations (A-REI.D.10, F-IF.C.7a, and A-CED.A.2). 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.D.10, F-IF.C.7a, A-CED.A.2**

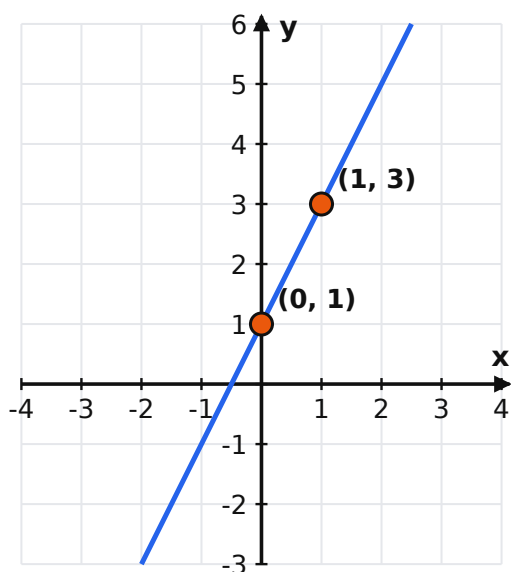
Questions

Question 1

What is the y-intercept of $y = 4x - 9$?

- A. $(0, -9)$
- B. $(0, 4)$
- C. $(9, 0)$
- D. $(\frac{9}{4}, 0)$

Question 2



Which equation matches the graph?

- A. $y = x + 2$
- B. $y = \frac{1}{2}x + 1$
- C. $y = 2x - 1$
- D. $y = 2x + 1$

Question 3

What is the x-intercept of $3x + 6y = 18$?

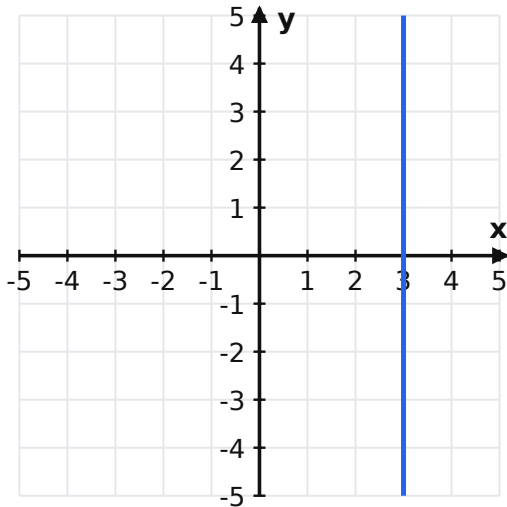
- A. (0,3)
- B. (6,0)
- C. (3,0)
- D. (18,0)

Question 4

Which equation is the same as $2x + y = 8$?

- A. $y = 2x + 8$
- B. $y = -2x - 8$
- C. $y = -2x + 8$
- D. $y = \frac{1}{2}x + 8$

Question 5



What is the equation of the graph?

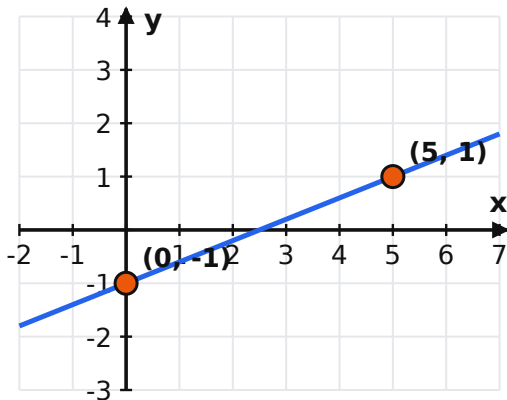
- A. $y = 3$
- B. $x = 3$
- C. $y = 3x$
- D. $x = -3$

Question 6

Which point is on the line $y = -2x + 5$?

- A. $(3, -1)$
- B. $(3, 1)$
- C. $(-3, 1)$
- D. $(2, 3)$

Question 7



Which equation matches the graph?

- A. $y = \frac{5}{2}x - 1$
- B. $y = \frac{2}{5}x + 1$
- C. $y = -\frac{2}{5}x - 1$
- D. $y = \frac{2}{5}x - 1$

Question 8

A line has slope 3 and passes through $(1, 4)$. Which is its point-slope equation?

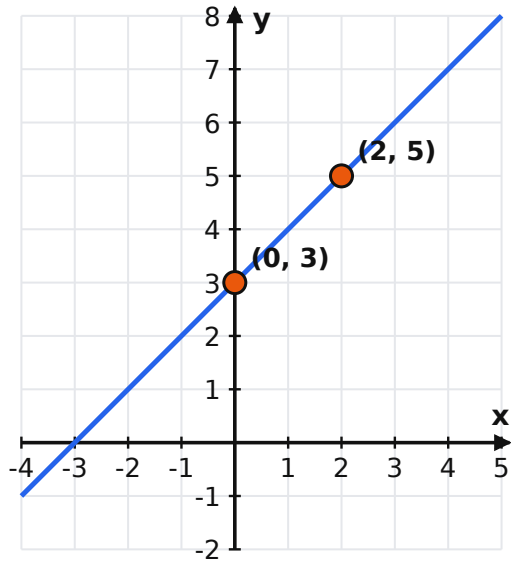
- A. $y - 1 = 3(x - 4)$
- B. $y + 4 = 3(x + 1)$
- C. $y - 4 = 3(x - 1)$
- D. $y - 3 = 4(x - 1)$

Question 9

A tank has $y = 50 - 2x$ gallons after x minutes. What does the x-intercept $(25, 0)$ mean?

- A. The tank is empty after 25 minutes
- B. The tank starts with 25 gallons
- C. The tank loses 25 gallons per minute
- D. The tank is full after 25 minutes

Question 10



A point on the line has x-coordinate 5. What is its y-coordinate?

- A. 5
- B. 8
- C. 3
- D. 10

Answers

1. **A** - The constant b in $y = mx + b$ is the y-intercept. The x-intercept is $(9/4, 0)$.
2. **D** - The y-intercept is 1 and the line rises 2 for each 1 to the right, so the slope is 2.
3. **B** - Let $y = 0$: $3x = 18$, so $x = 6$. The point $(0, 3)$ is the y-intercept.
4. **C** - Subtract $2x$ from both sides to get $y = -2x + 8$.
5. **B** - Every point on a vertical line has the same x-coordinate, here 3.
6. **A** - For $x = 3$, $y = -6 + 5 = -1$. The point $(2, 3)$ would need $y = 1$.
7. **D** - The y-intercept is -1, and the line rises 2 for each 5 to the right, so the slope is $2/5$.
8. **C** - Point-slope form is $y - y_1 = m(x - x_1)$. The y-coordinate 4 goes with y and the x-coordinate 1 goes with x .
9. **A** - At the x-intercept, $y = 0$ gallons. The y-intercept 50 is the starting amount and the slope -2 is the rate.
10. **B** - The line is $y = x + 3$, so $y = 5 + 3 = 8$.

Remember

- Every point on the line is a solution of the equation, and every solution is on the line.
- In $y = mx + b$, m is the slope and b is the y-intercept.
- Find intercepts by setting $x = 0$ for the y-intercept and $y = 0$ for the x-intercept.
- Point-slope form $y - y_1 = m(x - x_1)$ uses a known point and the slope.
- $y = k$ is horizontal with slope 0; $x = h$ is vertical with undefined slope.