

Algebra 1 - Systems of Linear Equations - Quiz

Common Core A-REI.C.5, A-REI.C.6, A-REI.D.11, A-CED.A.3 · maths-pdf.fr/en/

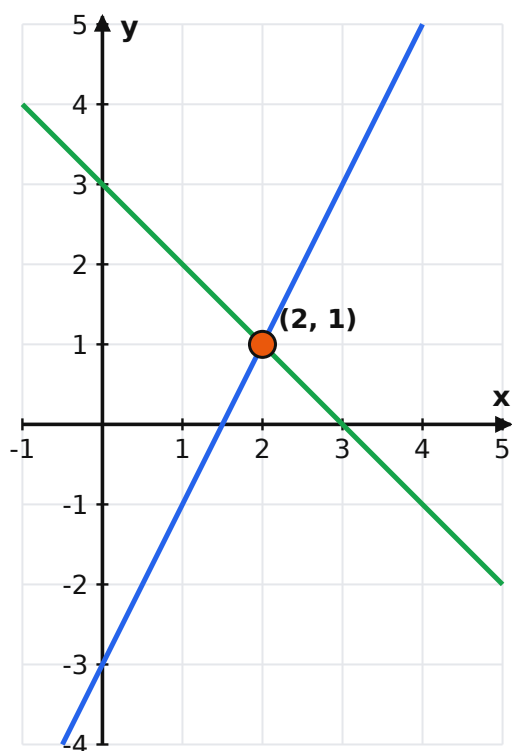
Name: _____ Class: _____ Date: ____/____/____

Try these 10 multiple-choice questions on systems of linear equations (A-REI.C.5, A-REI.C.6, and A-REI.D.11). 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.C.5, A-REI.C.6, A-REI.D.11, A-CED.A.3**

Questions

Question 1

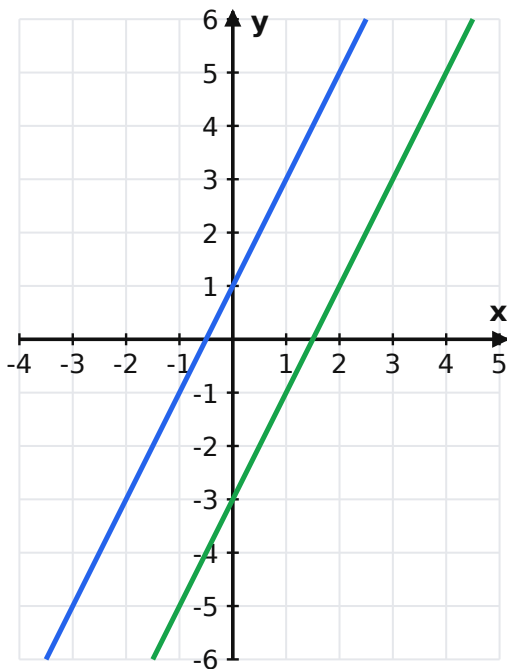


From the graph, what is the y-coordinate of the solution of the system?

- A. 2
- B. 3
- C. 1

D. -3

Question 2



How many solutions does the graphed system have?

- A. One solution
- B. Two solutions
- C. No solution
- D. Infinitely many solutions

Question 3

Solve: $y = 2x$ and $x + y = 9$.

- A. (3,6)
- B. (6,3)
- C. (9,0)
- D. (2,4)

Question 4

Solve: $x + y = 11$ and $x - y = 3$.

- A. (4,7)
- B. (7,4)
- C. (8,3)
- D. (14,-3)

Question 5

To eliminate y in $2x+3y=7$ and $5x-3y=14$, which step works?

- A. Subtract the equations
- B. Add the equations
- C. Multiply the first by 3 and add
- D. Multiply the second by -3 and add

Question 6

How many solutions does $y=2x+3$ and $4x-2y=-6$ have?

- A. None
- B. Exactly one
- C. Exactly two
- D. Infinitely many

Question 7

Three notebooks and two pens cost \$13. One notebook and two pens cost \$7. What does one notebook cost?

- A. \$3
- B. \$2
- C. \$4
- D. \$1

Question 8

Months	Plan A	Plan B
1	\$55	\$45
2	\$70	\$70
3	\$85	\$95

When do the two plans cost the same?

- A. After 1 month
- B. After 3 months
- C. Never
- D. After 2 months

Question 9

Solve by substitution: $x=y+2$ and $2x+y=10$.

- A. $(2,4)$

- B. (4,2)
- C. (6,4)
- D. (3,1)

Question 10

Which system has the solution (1,3)?

- A. $y = 2x + 1$ and $y = -x + 4$
- B. $y = 2x + 3$ and $y = -x + 4$
- C. $y = 3x$ and $y = x + 1$
- D. $y = x + 2$ and $y = 2x + 3$

Answers

1. **C** - The lines meet at (2, 1). The y-coordinate is 1, while 2 is the x-coordinate.
2. **C** - Parallel lines never intersect, so no ordered pair satisfies both equations.
3. **A** - Substitute: $x + 2x = 9$, so $x = 3$ and $y = 6$.
4. **B** - Add: $2x = 14$, so $x = 7$. Then $y = 4$.
5. **B** - The y-coefficients 3 and -3 are opposites, so adding cancels y.
6. **D** - Rewriting $4x - 2y = -6$ gives $y = 2x + 3$, the same line.
7. **A** - Subtract the equations: 2 notebooks cost \$6, so one costs \$3. The pens cost \$2 each.
8. **D** - Both plans cost \$70 after 2 months, which is the intersection of the two cost rules.
9. **B** - Substitute: $2(y + 2) + y = 10$, so $3y = 6$, $y = 2$, and $x = 4$.
10. **A** - For $x = 1$, $y = 2x + 1$ gives 3 and $y = -x + 4$ gives 3. The other systems fail at least one equation.

Remember

- A solution of a system is an ordered pair that satisfies every equation.
- Graphing: the solution is the intersection point of the lines.
- Substitution: solve one equation for a variable and substitute into the other.
- Elimination: add or subtract equations to cancel a variable.
- Parallel lines give no solution; identical lines give infinitely many.