

Grade 8 · Systems of Linear Equations · Test

Common Core 8.EE.C.8a, 8.EE.C.8b, 8.EE.C.8c · mathovore.fr

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

This test has nine questions worth 20 points in total and should take about 45 minutes. Show every step of your work. Questions cover reading and graphing systems, substitution, elimination, systems with no solution or infinitely many solutions, and word problems. Calculators are not needed.

Test information

- **Grade:** Grade 8
- **Chapter:** Systems of Linear Equations
- **Common Core:** 8.EE.C.8a, 8.EE.C.8b, 8.EE.C.8c
- **Time:** 45 minutes
- **Total:** 20 points (Question 1: 2 pts; Question 2: 3 pts; Question 3: 2 pts; Question 4: 2 pts; Question 5: 2 pts; Question 6: 3 pts; Question 7: 2 pts; Question 8: 2 pts; Question 9: 2 pts)

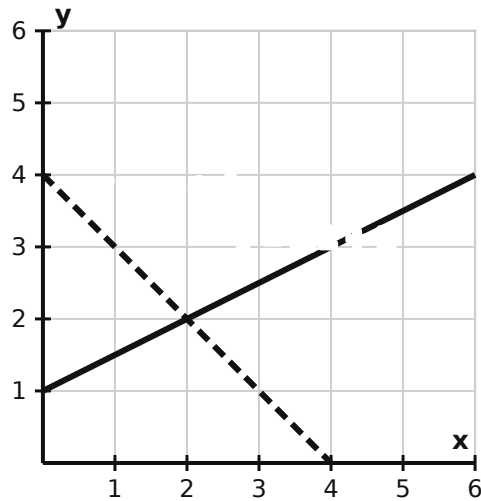
Question 1: Check an ordered pair (2 points)

Determine whether $(3, -1)$ is a solution of the system $2x + y = 5$ and $x - y = 5$. Show your work.

Question 2: Read a graph (3 points)

The graph shows the system $y = \frac{1}{2}x + 1$ and $y = -x + 4$.

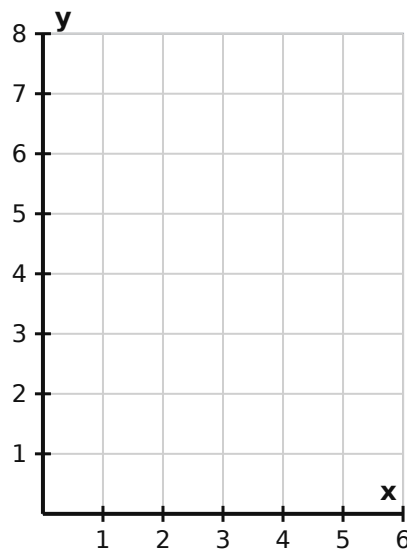
- Write the solution shown by the graph. (1 point)
- Show that it satisfies both equations. (2 points)



The graph of the system.

Question 3: Solve by graphing (2 points)

Graph $y = x + 1$ and $y = -2x + 7$ on the grid. State the solution of the system.



A blank grid for graphing.

Question 4: Substitution (2 points)

Solve the system: $y = 4x - 5$ and $2x + y = 7$.

Question 5: Elimination (2 points)

Solve the system: $3x + 4y = 18$ and $3x - 2y = 0$.

Question 6: Multiply both equations (3 points)

Solve the system: $3x+2y=8$ and $2x+5y=-2$.

Question 7: How many solutions? (2 points)

Tell how many solutions each system has. Give a reason.

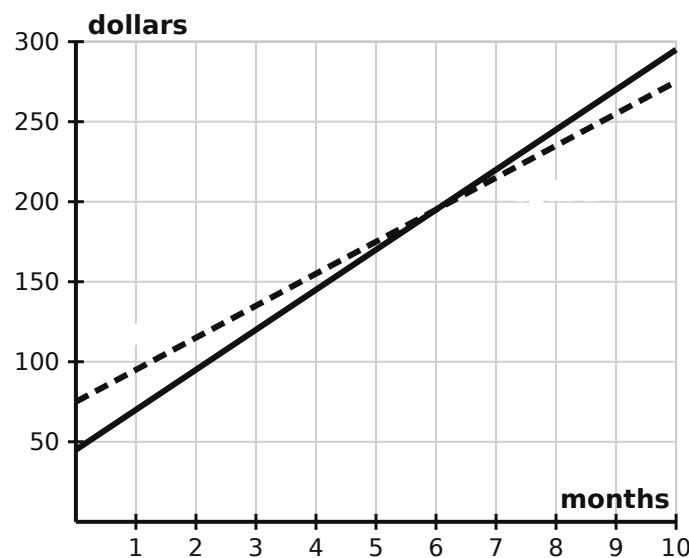
- a. $2x-y=4$ and $y=2x+3$ (1 point)
- b. $4x+2y=6$ and $y=-2x+3$ (1 point)

Question 8: School store (2 points)

Diego buys 3 notebooks and 4 pens for \$11.50. Aisha buys 3 notebooks and 2 pens for \$9.50. Find the price of one notebook and one pen.

Question 9: Gym memberships (2 points)

Gym A charges \$45 to join plus \$25 per month. Gym B charges \$75 to join plus \$20 per month. The graph shows the total cost. After how many months do the two gyms cost the same, and what is that cost?



Total cost of each gym over time.