

Grade 8 - Systems of Linear Equations - Test Answer Key

Common Core 8.EE.C.8a, 8.EE.C.8b, 8.EE.C.8c · maths-pdf.fr/en/

Use this answer key to score the systems of linear equations test out of 20 points. Each solution shows the full work and a scoring guide, so partial credit can be given fairly when a student shows correct steps but makes an arithmetic slip.

Grade 8 · Common Core State Standards: **8.EE.C.8a**, **8.EE.C.8b**, **8.EE.C.8c**

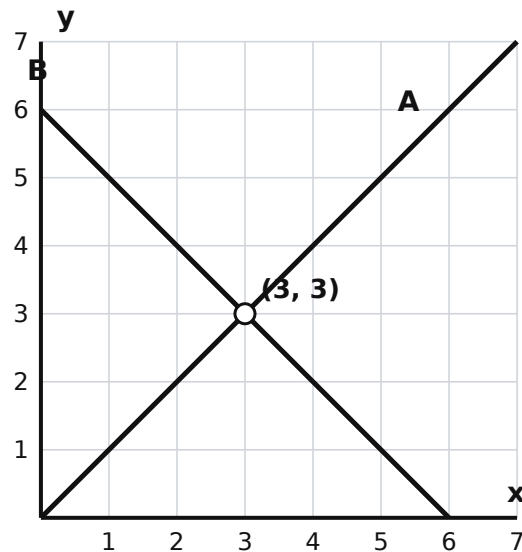
Question 1 - Check [2 pts]

$4+2=6$ is true. $12-1=11$ is true.

Yes

Scoring: 1 point for each equation checked.

Question 2 - Graph [3 pts]



The lines cross at $(3, 3)$.

Check: $3=3$ and $3=-3+6$.

Scoring: 1 point for the point, 2 points for the check.

Question 3 - Substitution [3 pts]

$3x+2x+1=16$, so $5x=15$ and $x=3$.

$y=2\cdot3+1=7$.

$(3,7)$

Scoring: 1 point for substituting, 1 point for x , 1 point for y .

Question 4 - Elimination [3 pts]

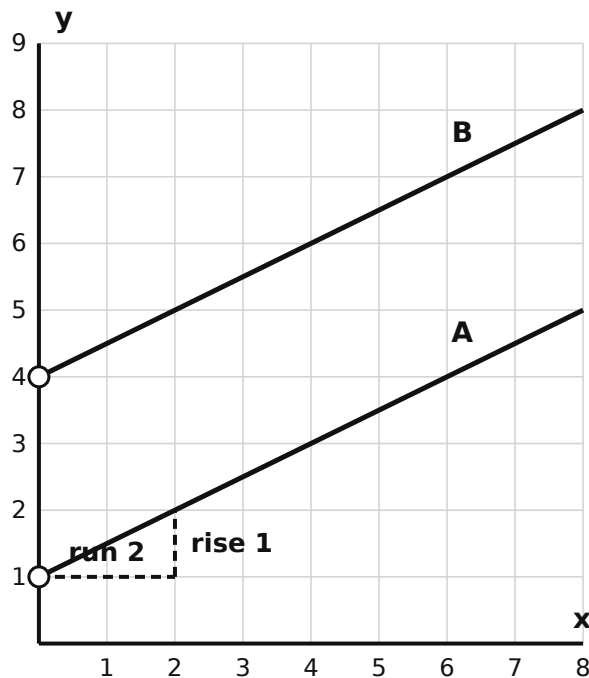
Add: $6x=24$, so $x=4$.

$16+y=17$, so $y=1$.

$(4,1)$

Scoring: 1 point for adding, 1 point for x , 1 point for y .

Question 5 - Number of solutions [3 pts]



Same slope, different intercepts.

a. No solution.

b. Both lines have slope $\frac{1}{2}$, but the intercepts are 1 and 4. They are parallel.

Scoring: 1 point for no solution. 1 point for equal slopes. 1 point for different intercepts.

Question 6 - Tickets [3 pts]

$a + s = 7$ and $12a + 8s = 68$. Then $12a + 56 - 8a = 68$, so $4a = 12$ and $a = 3$.

3 adult and 4 student tickets

Scoring: 1 point for the system, 1 point for solving, 1 point for both answers.

Question 7 - Boat [2 pts]

$b + c = 9$ and $b - c = 5$. Subtract: $2c = 4$, so $c = 2$.

2 miles per hour

Scoring: 1 point for the system. 1 point for 2 mph.

Question 8 - Explain [1 pt]

The intersection point lies on both lines, so its coordinates satisfy both equations.

Scoring: 1 point for a correct explanation.

Total
20 points