

2026 MCAS Sample Student Work and Scoring Guide

Grade 10 Mathematics

Question 6: Constructed-Response

Reporting Category: Algebra and Functions

Standard: [A-REI.C.6](#) - Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

Item Description: Solve given systems of linear equations and determine the solution of another system of linear equations from a graph.

Calculator: Not allowed

This item can be found in the released item sets on the [MCAS Resource Center](#).

Scoring Guide

Select a score point in the table below to view the sample student response.

Score*	Description
4A 4B	The student response demonstrates an exemplary understanding of the Algebra concepts involved in solving systems of linear equations exactly and approximately. The student correctly solves a system of linear equations graphed on a coordinate plane and solves other systems of linear equations algebraically.
3	The student response demonstrates a good understanding of the Algebra concepts involved in solving systems of linear equations exactly and approximately. Although there is significant evidence that the student was able to recognize and apply the concepts involved, some aspect of the response is flawed. As a result, the response merits 3 points.
2	The student response demonstrates a fair understanding of the Algebra concepts involved in solving systems of linear equations exactly and approximately. While some aspects of the task are completed correctly, others are not. The mixed evidence provided by the student merits 2 points.
1	The student response demonstrates a minimal understanding of the Algebra concepts involved in solving systems of linear equations exactly and approximately.
0	The student response contains insufficient evidence of an understanding of the Algebra concepts involved in solving systems of linear equations exactly and approximately. As a result, the response does not merit any points.

*Letters are used to distinguish between sample student responses that earned the same score (e.g., 4A and 4B).

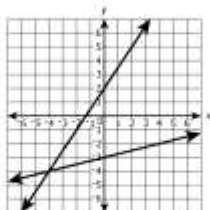
Score Point 4A

This question has four parts.

Four students each created a system of linear equations.

Part A

Addison created a system of equations and graphed the equations on a coordinate plane, as shown.



What is the solution, (x, y) , of Addison's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

The solution of Addison's system of equations is $(-4, -4)$. I got this by looking at the graph and determining the point at which the two equations intersect.

Part B

Blair created this system of equations.

$$\begin{aligned}x &= 5 \\ y &= -1\end{aligned}$$

What is the solution, (x, y) , of Blair's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

The solution of Blair's system of equations is $(5, -1)$. I got this answer by plugging in the $x = 5$ and $y = -1$ into the solution (x, y) .

Part C

Cooper created this system of equations.

$$\begin{aligned}y &= -x \\ y &= 8x\end{aligned}$$

Which of the following is the solution of Cooper's system of equations?

- ☐ A. $(-1, 8)$
☒ B. $(0, 0)$
☐ C. $(0, 8)$
☐ D. $(-8, 0)$

Part D

Drew created this system of equations.

$$\begin{aligned}x + y &= 7 \\ -3x + y &= -9\end{aligned}$$

What is the solution, (x, y) , of Drew's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

The solution to Drew's system of equations is $(4, 3)$. I got this answer by rearranging the equations so that it was $y = -x + 7$ and $y = 3x - 9$. Then, because I made both equations equal to y , I set both equations equal to each other and solved for x , getting 4. I then plugged 4 back into the original equation $x + y = 7$ as the x variable and solved for y to get $y = 3$.

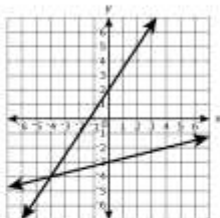
Score Point 4B

This question has four parts.

Four students each created a system of linear equations.

Part A

Addison created a system of equations and graphed the equations on a coordinate plane, as shown.



What is the solution, (x, y) , of Addison's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

The solution is $(-4, -4)$ because that is where the two lines intersect.

Part B

Blair created this system of equations.

$$\begin{aligned} x &= 5 \\ y &= -1 \end{aligned}$$

What is the solution, (x, y) , of Blair's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

The solution is $(5, -1)$. I drew out a graph and graphed these lines, and this was only possible place for them to meet because they were straight and would maintain the same values.

Part C

Cooper created this system of equations.

$$\begin{aligned} y &= -x \\ y &= 8x \end{aligned}$$

Which of the following is the solution of Cooper's system of equations?

- ☐ A. $(-1, 8)$
☒ B. $(0, 0)$
☐ C. $(0, 8)$
☐ D. $(-8, 0)$

Part D

Drew created this system of equations.

$$\begin{aligned} x + y &= 7 \\ -3x + y &= -9 \end{aligned}$$

What is the solution, (x, y) , of Drew's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

The solution is $(4, 3)$. I rearranged the equation $x + y = 7$ so it became $y = -x + 7$, and then I put that into the other equation so it became $-3x + (-x + 7) = -9$ and I could solve for x . Once I did that, I put the value for x back into the equation $x + y = 7$ so I could solve for y .

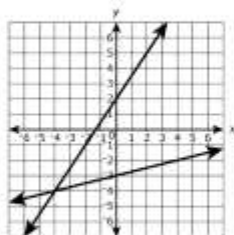
Score Point 3

This question has four parts.

Four students each created a system of linear equations.

Part A

Addison created a system of equations and graphed the equations on a coordinate plane, as shown.



What is the solution, (x, y) , of Addison's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

$(-4, -4)$ because that is where the two functions meet.

Part B

Blair created this system of equations.

$$\begin{aligned} x &= 5 \\ y &= -1 \end{aligned}$$

What is the solution, (x, y) , of Blair's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

it would be $(5, -1)$ because if you were to put it on a graph you would see $x = 5$ being a vertical line and $y = -1$ being a horizontal line which means they would only meet at one point which would be $(5, -1)$

Part C

Cooper created this system of equations.

$$\begin{aligned} y &= -x \\ y &= 8x \end{aligned}$$

Which of the following is the solution of Cooper's system of equations?

- ☐ A. $(-1, 8)$
☒ B. $(0, 0)$
☐ C. $(0, 8)$
☐ D. $(-8, 0)$

Part D

Drew created this system of equations.

$$\begin{aligned} x + y &= 7 \\ -3x + y &= -9 \end{aligned}$$

What is the solution, (x, y) , of Drew's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

$-2, 5$

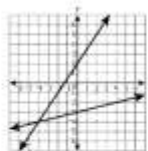
Score Point 2

This question has four parts.

Four students each created a system of linear equations.

Part A

Addison created a system of equations and graphed the equations on a coordinate plane, as shown.



What is the solution, (x, y) , of Addison's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

Addison's system of Equations:

$$y = \frac{3}{2}x + 2$$

$$y = \frac{1}{4}x - 3$$

$$\text{Solve for } x: (0) = \frac{3}{2}x + 2$$

$$-2 = \frac{3}{2}x$$

$$x = -\frac{4}{3}$$

$$\text{Solve for } y: y = \frac{3}{2}(0) + 2$$

$$y = 2$$

Part B

Ben created this system of equations.

$$\begin{aligned} x &= 5 \\ y &= -1 \end{aligned}$$

What is the solution, (x, y) , of Ben's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

$x = 0$ and $y = -1$ because the equation $y = -1$ shows that there is no slope, which means it's automatically 0. Then, the -1 represents the y intercept of the equation in Slope - Intercept Form.

Part C

Cooper created this system of equations.

$$\begin{aligned} 8 &= -2 \\ y &= 8x \end{aligned}$$

Which of the following is the solution of Cooper's system of equations?

- ☐ A. $(1, 8)$
☒ B. $(8, 8)$
☐ C. $(8, 8)$
☐ D. $(-8, 8)$

Part D

Drew created this system of equations.

$$\begin{aligned} 3(x + y) &= 7 \\ -3x + y &= -9 \end{aligned}$$

What is the solution, (x, y) , of Drew's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

$$3(x + y) = 3(7)$$

$$-3x + y = -9$$

$$3x + 3y = 21$$

$$(0)x + 4y = 12$$

$$y = 3$$

$$-1(x + y) = -1(7)$$

$$-3x + y = -9$$

$$-x - y = -7$$

$$-4x + (0)y = -16$$

$$x = 4$$

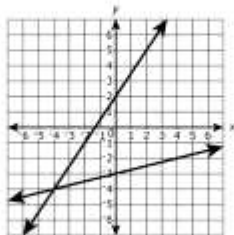
Score Point 1

This question has four parts.

Four students each created a system of linear equations.

Part A

Addison created a system of equations and graphed the equations on a coordinate plane, as shown.



What is the solution, (x, y) , of Addison's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

$(-4, -4)$ because thats where they intersect

Part B

Blair created this system of equations.

$$\begin{aligned} x &= 5 \\ y &= -1 \end{aligned}$$

What is the solution, (x, y) , of Blair's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

$(-5, 1)$ because you switch the values to opposite

Part C

Cooper created this system of equations.

$$\begin{aligned} y &= -x \\ y &= 8x \end{aligned}$$

Which of the following is the solution of Cooper's system of equations?

- ☐ A. $(-1, 8)$
☐ B. $(0, 0)$
☐ C. $(0, 8)$
☒ D. $(-8, 0)$

Part D

Drew created this system of equations.

$$\begin{aligned} x + y &= 7 \\ -3x + y &= -9 \end{aligned}$$

What is the solution, (x, y) , of Drew's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

$(-7, 9)$ by doing the same thing as last time switching the values as opposites

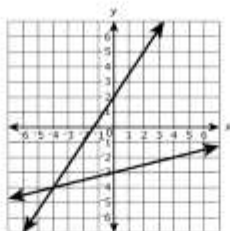
Score Point 0

This question has four parts.

Four students each created a system of linear equations.

Part A

Addison created a system of equations and graphed the equations on a coordinate plane, as shown.



What is the solution, (x, y) , of Addison's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

$y = \frac{3}{2}x + 2$ and $y = \frac{1}{4}x - 3$ are the equations of lines for the graph above. after solving, you remain with $2y$ and $4x$.

Part B

Blair created this system of equations.

$$\begin{aligned}x &= 5 \\ y &= -1\end{aligned}$$

What is the solution, (x, y) , of Blair's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

the equation for a line is $y = mx + b$. After replacing the x and y with the provided values from Blairs line you end up with an equation of $y + 5 = 1$.

Part C

Cooper created this system of equations.

$$\begin{aligned}y &= -x \\ y &= 8x\end{aligned}$$

Which of the following is the solution of Cooper's system of equations?

- ☒ A. $\{-1, 8\}$
☐ B. $\{0, 0\}$
☐ C. $\{0, 8\}$
☐ D. $\{-8, 0\}$

Part D

Drew created this system of equations:

$$\begin{aligned}x + y &= 7 \\ -3x + y &= -9\end{aligned}$$

What is the solution, (x, y) , of Drew's system of equations? Show or explain how you got your answer.

Enter your answer and your work or explanation in the space provided.

After simplifying the equations you are left with $y = -6x + 7$ and $y = -6x + 9$.