

Grade 8 Mathematics Sample TE Item

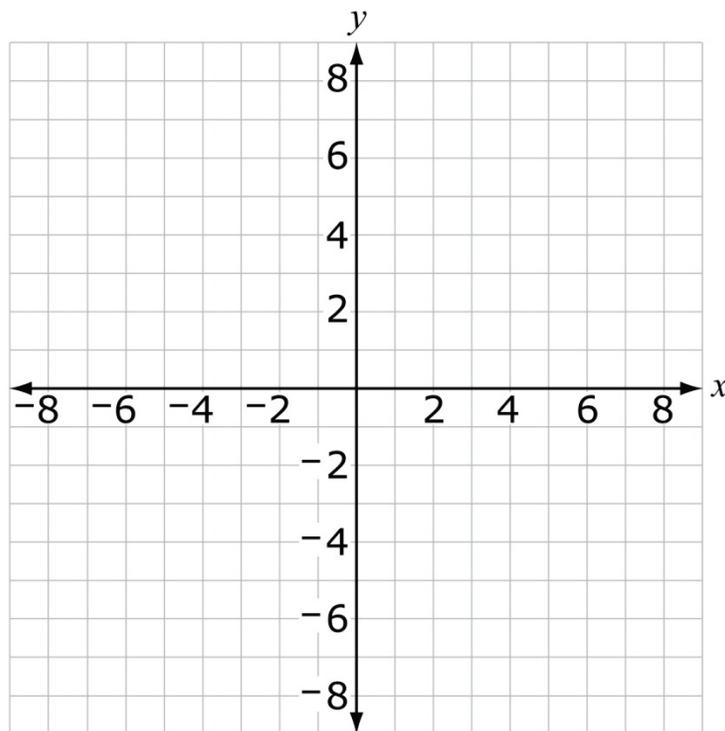


MAT.08.TE.1.000EE.D.147

Sample Item ID:	MAT.08.TE.1.000EE.D.147
Grade:	08
Primary Claim:	Claim 1: Concepts and Procedures Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.
Secondary Claim(s):	
Primary Content Domain:	Expressions and Equations
Secondary Content Domain(s):	
Assessment Target(s):	1 D: Analyze and solve linear equations and pairs of simultaneous linear equations.
Standard(s):	8.EE.8
Mathematical Practice(s):	1, 2, 5
DOK:	2
Item Type:	TE
Score Points:	3
Difficulty:	M
Key:	See Sample Top-Score Response.
Stimulus/Source:	
Target-Specific Attributes (e.g., accessibility issues):	
Notes:	TE template: Straight Lines AI will be needed to score this item.

Part A

The solution of a system of two linear equations is $(-3, 1)$. On this coordinate grid, graph two lines that could be the graphs of the two linear equations in the system.

**Part B**

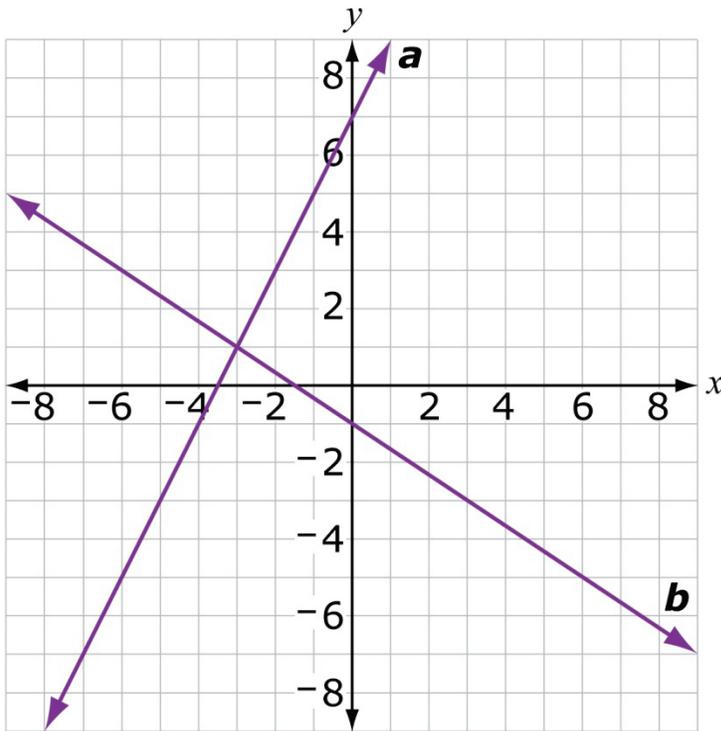
The computer has labeled the lines you graphed a and b .

What is the equation of line a ?

What is the equation of line b ?

Sample Top-Score Response:

Part A



Part B

Line *a*: $y = 2x + 7$

Line *b*: $y = -\frac{2}{3}x - 1$

Scoring Rubric:

Responses to this item will receive 0-3 points, based on the following:

3 points: The student shows a thorough understanding of the solutions of systems of equations and writing the equations of lines from a graph. The two lines intersect at the point $(-3, 1)$ and both of the equations given are correct.

2 points: The student shows a partial understanding of the solutions of systems of equations and writing the equations of lines from a graph. The response shows two lines that intersect at the point $(-3, 1)$ but one or both equations given are incorrect.

1 point: The student shows a limited understanding of the solutions of systems of equations and writing the equations of lines from a graph. The response shows two lines that do NOT intersect at the point $(-3, 1)$ but both equations given are correct.

0 points: The student shows inconsistent or no understanding of the solutions of systems of equations and writing the equations of lines from a graph. The response shows two lines that do NOT intersect at the point $(-3, 1)$ and there is an error in at least one of the equations of the lines.

TE Information:

Item Code: MAT.08.TE.2.000EE.B.147 Part A

Template: Straight Lines

Interaction Space Parameters:

- A. True
- B.
- C. True (visible)
- D. False
- E.
- F. True
- G. Draw lines extended across the interaction space with arrowheads at the outermost points
- H. True
- I. 2
- J. Label first and last grid increment

Scoring Data:

Line 1:

- a. Start point
 - i. Do not consider
- b. End point
 - i. Do not consider
- c. x-intercept
 - i. Do not consider
- d. y-intercept
 - i. Do not consider
- e. Slope
 - i. Do not consider

Line 2:

- a. Start point
 - i. Do not consider
 - b. End point
 - i. Do not consider
 - c. x-intercept
 - i. Do not consider
 - d. y-intercept
 - i. Do not consider
 - e. Slope
 - i. Do not consider
- A. Parallel=false
 - B. Perpendicular=false
 - C. Intersecting
 - i. True
 - ii. True
 - iii. (-3,1)