



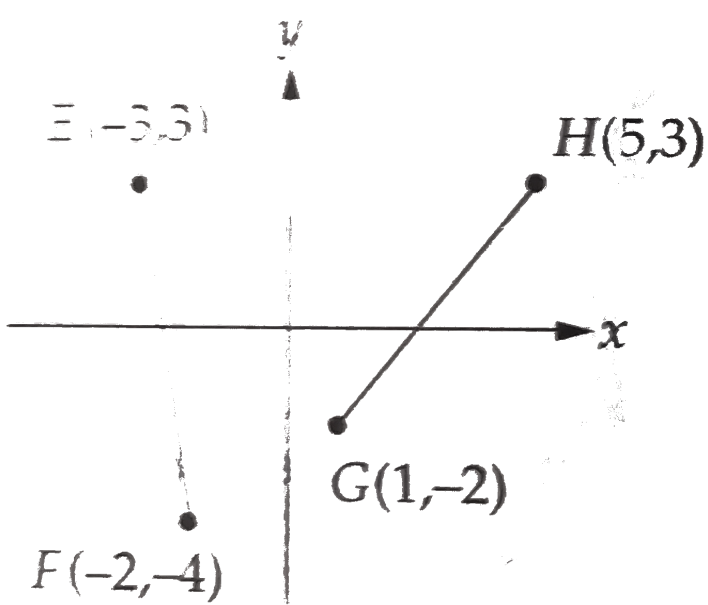
# MATHS

## BOOKS - KAPLAN INC MATHS (ENGLISH)

### COORDINATE GEOMETRY

#### Example

1. What is the distance from the midpoint of  $\overline{EF}$  to the midpoint of  $\overline{GH}$  ?



A. 5.408

B. 5.454

C. 5.568

D. 5.59

**Answer: D**



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2. If points  $(0,4)$ ,  $(0, -3)$ ,  $(7, -3)$ , and  $(j, 4)$  are consecutive vertices of a trapezoid of area 35, what is the value of  $j$  ?

A. 3

B. 4

C. 7

D. 10

**Answer: A**



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3. Which of the following lines has no point of intersection with the line  $y = -\frac{1}{3}x + \sqrt{2}$ ?

A.  $y = \frac{1}{3}x - \sqrt{2}$

B.  $y = -3x + \sqrt{2}$

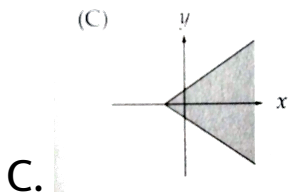
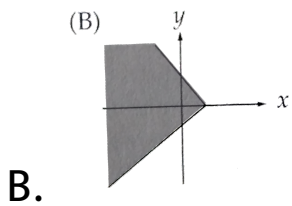
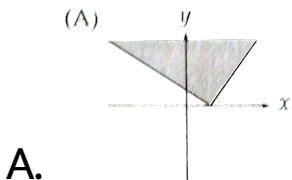
C.  $y = -\frac{1}{3}x - \sqrt{2}$

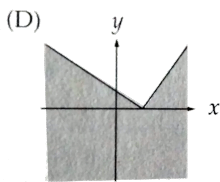
D.  $y = 3x - \sqrt{2}$

**Answer: C**



4. Which of the following shaded regions shows the graph of the inequality  $y \leq |x - 2|$  ?





D.

**Answer: D**



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5. Which of the following equations describes the set of all point  $(x, y)$  in the coordinate plane that are a distance of  $\sqrt{3}$  from the point  $(2, -5)$  ?

A.  $(x - 2)^2 + (y - 5)^2 = 3$

B.  $(x - 2)^2 + (y + 5)^2 = 3$

C.  $(x + 2)^2 + (y + 5)^2 = 3$

D.  $(x + 2)^2 - (y - 5)^2 = 3$

**Answer: B**



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**6.** Which of the following is an equation of an ellipse centered at the origin and with axial intersections at  $(0, \pm 3)$  and  $(\pm 2, 0)$  ?

A.  $\frac{x}{2} + \frac{y}{3} = 1$

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

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

D.  $\frac{x^2}{4} + \frac{y^2}{9} = 1$

**Answer: D**



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**Coordinate Geometry Follow Up Test**



1. The graph of the equation  $x^2 + y^2 = 169$  includes how many points  $(x, y)$  in the coordinate plane where  $x$  and  $y$  are both negative integers ?

A. None

B. One

C. Two

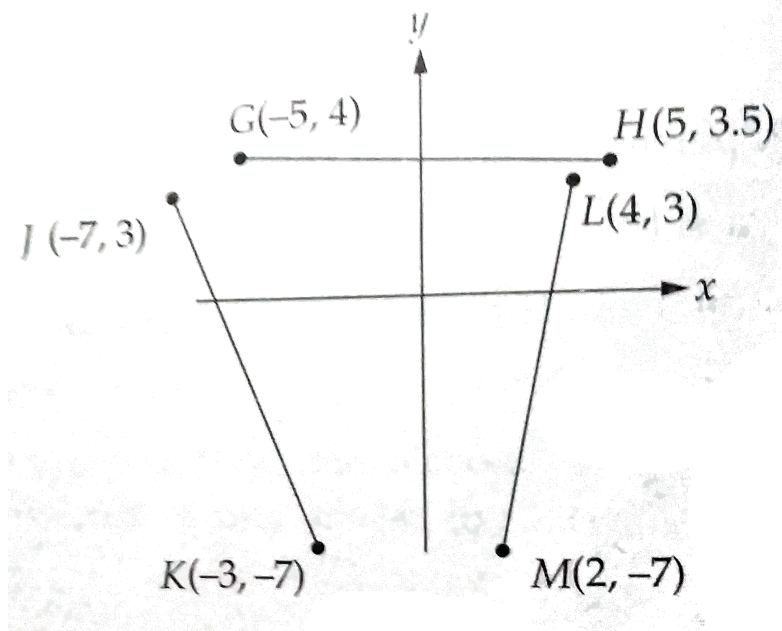
D. Three

**Answer: C**



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2. If the midpoints of segments  $\overline{GH}$ ,  $\overline{JK}$ ,  $\overline{LM}$  are connected, what is the area of the resulting triangle?



B. 23

C. 26

D. 33

**Answer: B**



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**3.** If the line  $y = 3x - 15$  intersects the line  $y = mx + 8$  in the third quadrant, which of the following must be true ?

A.  $m$  is positive

B.  $m$  is negative

C.  $m = 0$

D.  $0 < m < 1$

**Answer: A**



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4. Which of the following lines is perpendicular to  $y = -3x + 2$  and has the same  $y$ -intercept as  $y = 3x - 2$ ?

A.  $y = -\frac{1}{3}x$

B.  $y = -\frac{1}{3}x + 2$

C.  $y = -\frac{1}{3}x - 2$

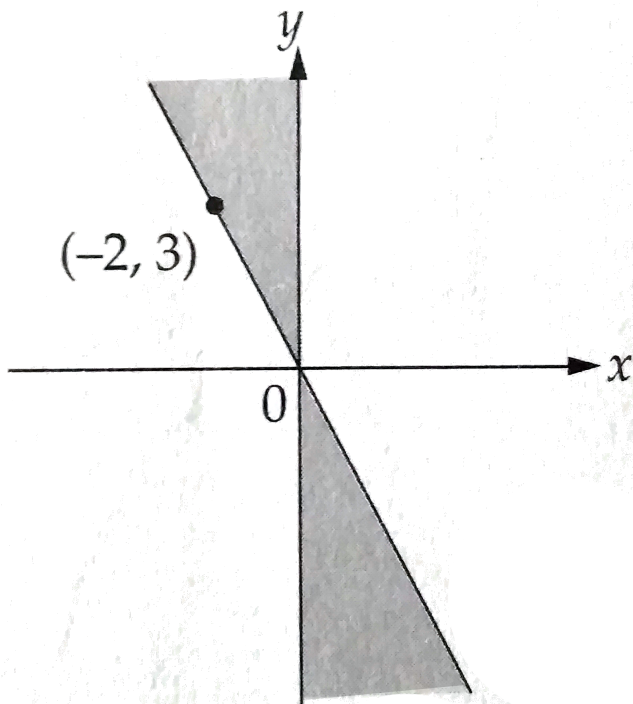
D.  $y = \frac{1}{3}x - 2$

**Answer: D**



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5. The shaded portion of Figure shows the graph of which of the following ?



A.  $x \left( y - \frac{2}{3}x \right) > 0$

B.  $x \left( y - \frac{3}{2}x \right) \geq 0$

C.  $x \left( y + \frac{3}{2} \right) \geq 0$

D.  $x \left( y + \frac{3}{2}x \right) \leq 0$

**Answer: D**



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6. Which of the following is a point at which the ellipse  $\frac{x^2}{9} + \frac{y^2}{16} = 1$  intersects the y - axis ?

A. (0, -3)

B. (0, -4)

C. (0, -8)

D. (0, -9)

**Answer: B**



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