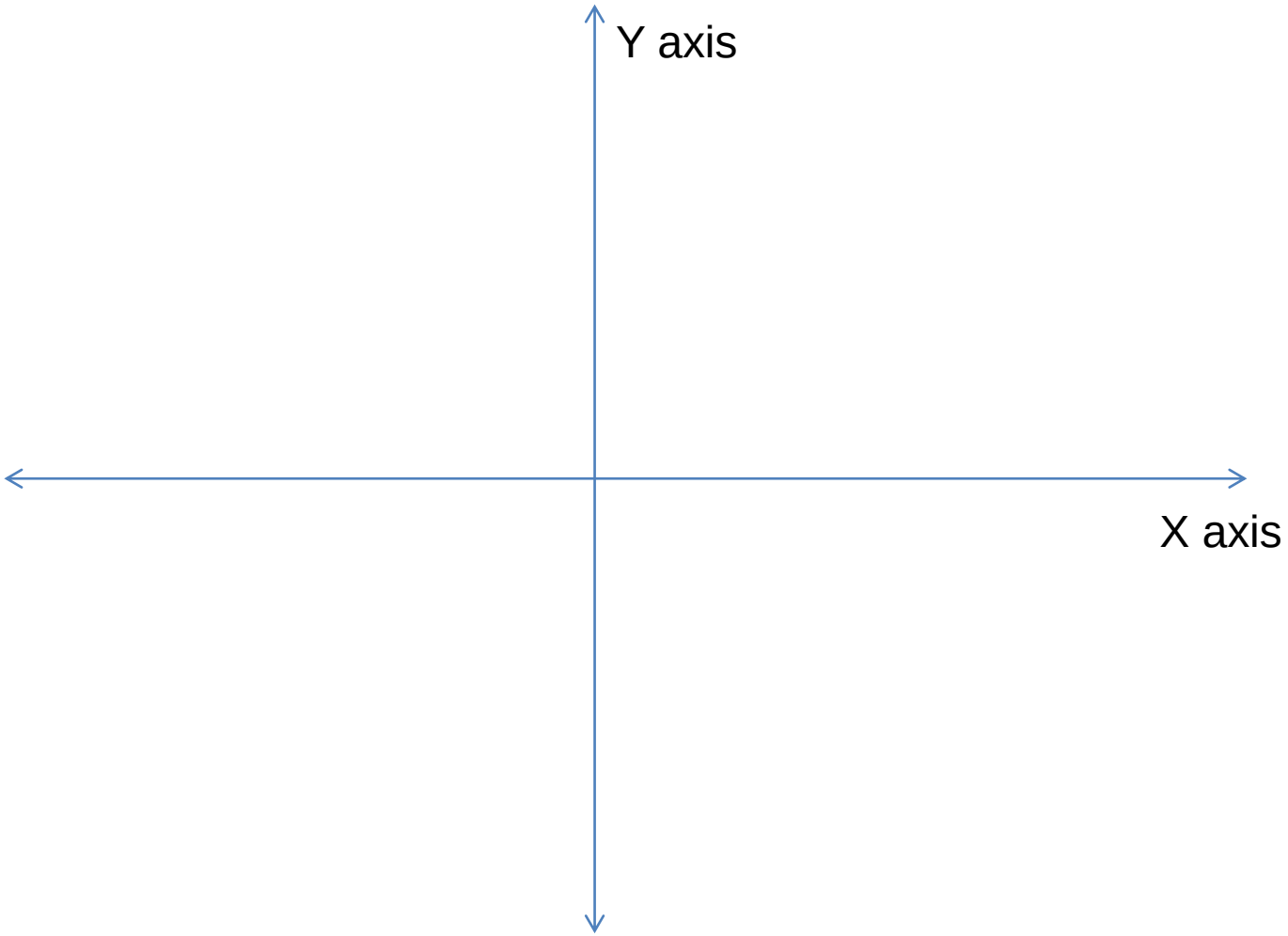
GMAT Prep

Coordinate Geometry

INSPIRUS®
INTERNATIONAL EDUCATION SPECIALISTS

Coordinate Geometry



Coordinate Geometry

1. The slope of the line perpendicular to the line $3x + 5y + 8 = 0$ is ?

   A. $\frac{-3}{5}$

   B. $\frac{-5}{3}$

   C. $\frac{3}{5}$

   D. $\frac{5}{3}$

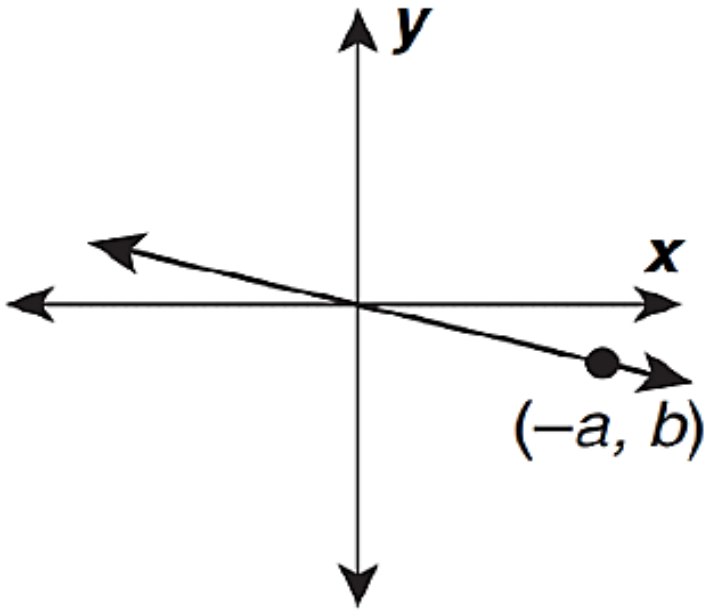
   E. 3

Coordinate Geometry

2. The slope of the line passing through A (3, -2) and B (-2, 3) is
   A. -5
   B. -1/5
   C. 1/5
   D. -1
   E. 5

Coordinate Geometry

3.



The slope of the line shown above is −27 and $a = 14$, what is the absolute value of b?

A. -4

B. 1/4

C. 1

D. 2

E. 4

Coordinate Geometry

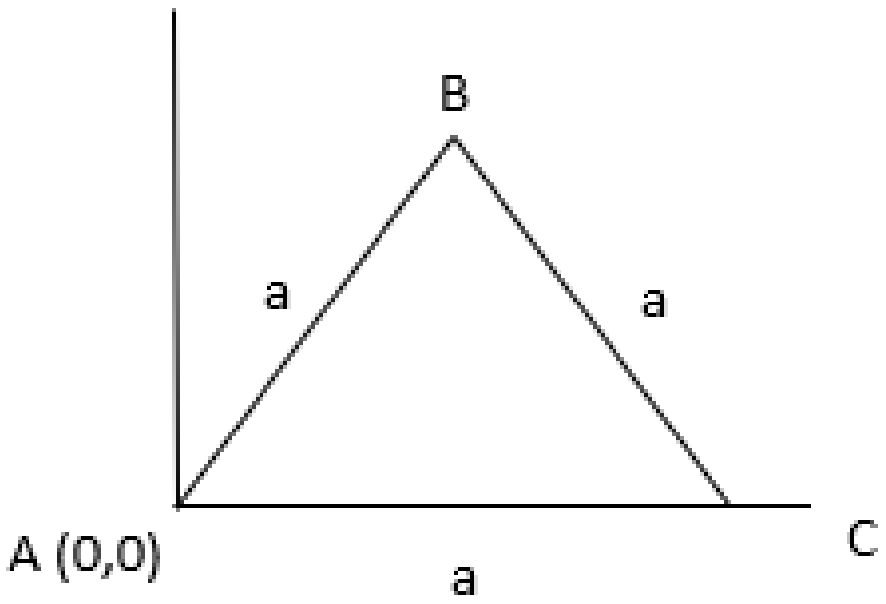
4. The slope of the line perpendicular to the line $3x + 5y + 8 = 0$ is
   A. 3/5
   B. 5/3
   C. -3/5
   D. -5/3
   E. 3

Coordinate Geometry

5. Equation of line k is given as $ax + by + c = 0$. Which of the following must be true?
   A. If a is positive, then x intercept of the line k is positive.
   B. If a is negative, then the slope of the line k is negative.
   C. If a and b are both negative, then the slope of the line k is negative.
   D. If a and b have opposite signs, then the slope of the line k is negative.
   E. None of the above.

Coordinate Geometry

6.



In the figure shown above, what is slope of line BC?

A. $\frac{1}{\sqrt{3}}$

B. $-\frac{1}{\sqrt{3}}$

C. 1

D. $\sqrt{3}$

E. $-\sqrt{3}$

Coordinate Geometry

7. The y-intercept of the line through the point whose coordinates are (5, -2) and (1, 3) is
   A. 5/4
   B. -5/4
   C. 17
   D. 17/4
   E. 7

Coordinate Geometry

8. The x–intercept and y–intercept of line L are A and B, respectively. What is the slope of the line L?

A. $\frac{-A}{B}$

B. $\frac{-B}{A}$

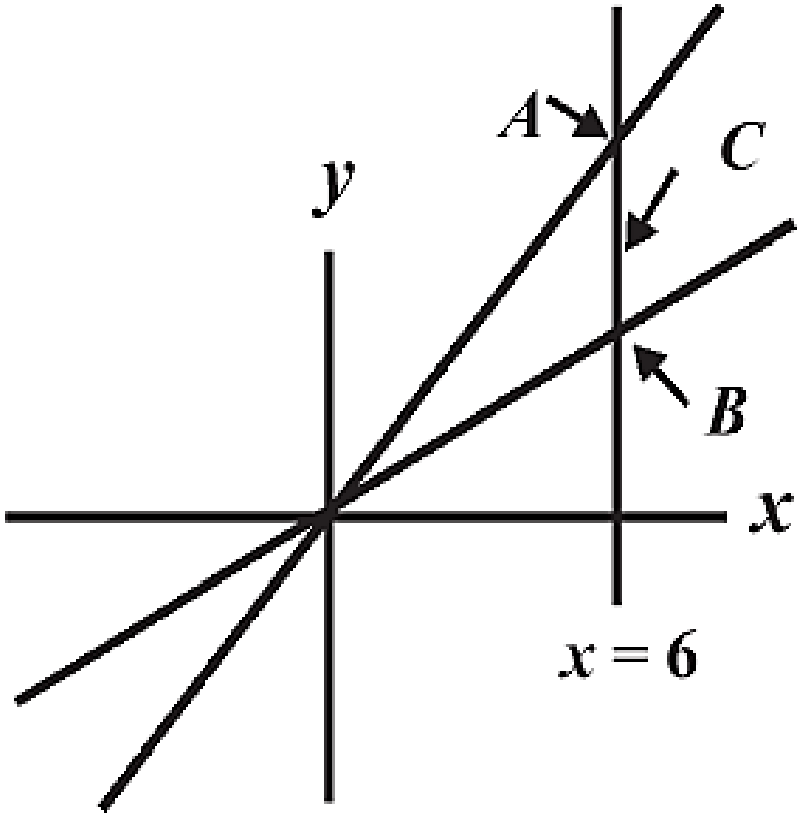
C. $\frac{A}{B}$

D. $\frac{B}{A}$

E. AB

Coordinate Geometry

9.



C is the mid-point of line segment AB. The slope of line passing through A = 1 and slope of line passing through B = $\frac{1}{3}$. What is the y-coordinate of point C?

A. 1.5

B. 2.5

C. 3

D. 4

E. 4.5

Coordinate Geometry

10. If a line passes through the points (-10, -18), (20, 22) and (x, 2), then what is the value of x ?

    A. -4

    B. -5

    C. 5

    D. 6

    E. 4

Coordinate Geometry

11. Which of the following points is farthest from the origin?

    A. (3, 5)

    B. (-3, 4)

    C. (5, 4)

    D. (7, -3)

    E. (6, -5)

Coordinate Geometry

12. For the parabola $y = x^2 – 6x+8$ in the xy-plane, what is the x co-ordinate of the vertex?

    A. -3

    B. -1

    C. 1.5

    D. 3

    E. 5

Coordinate Geometry

13. In the xy-plane, triangular region T is bounded by the x-axis and $y = - | x | + 7$. Which of the following points lie outside region T?

    A. (0, 6)

    B. (1, 3)

    C. (-1, 4)

    D. (3, 5)

    E. (2, 5)

Coordinate Geometry

14. In the rectangular coordinate system, the x-axis is the perpendicular bisector of segment PQ, and the line y = x is the perpendicular bisector of segment QR. If the coordinates of the point P are (6, -5), what are the coordinates of point R?

    A. (5, -6)

    B. (5, 6)

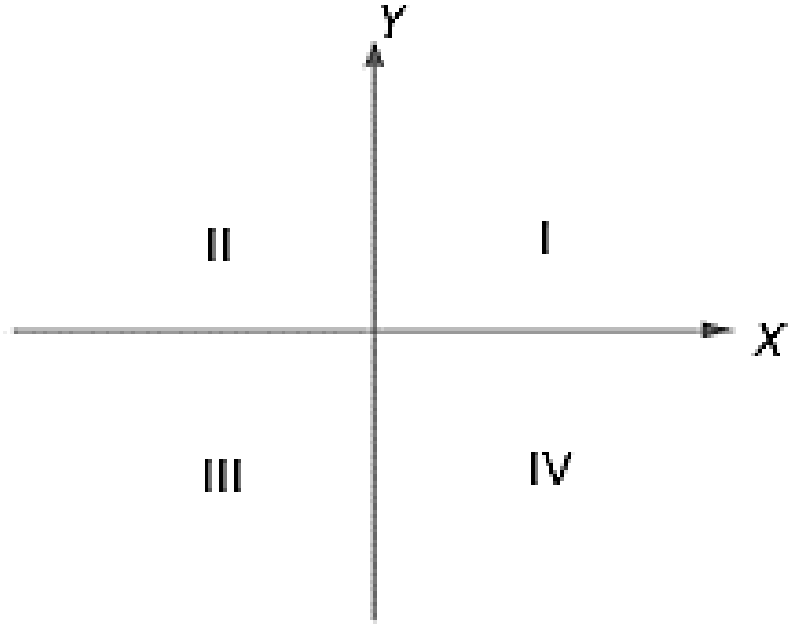
    C. (6, 5)

    D. (-5, 6)

    E. (-5, -6)

Coordinate Geometry

15.



In the xy-plane, which quadrant/s do not contain any point (x, y) which satisfy the inequality $2x - 3y < -6$?

A. I only

B. II only

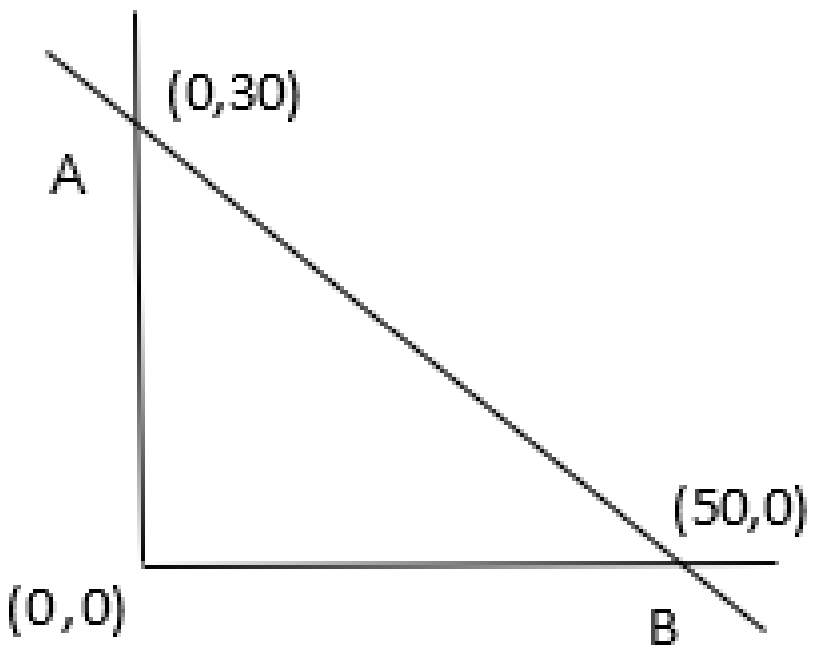
C. III and IV

D. IV only

E. I, II, and III

Coordinate Geometry

16.



How many points on line segment AB have both x and y coordinates as integers?

A. 9

B. 10

C. 11

D. 12

E. 30

Coordinate Geometry

17. $y - x < 1$

$3y > x + 6$

In the xy plane, if the point with coordinates (a, b) lies in the solution set of the system of the inequalities above, which of the following relationships between a and b must be true?

A. $a > b$

B. $a < b$

C. $ab > 0$

D. $ab < 0$

E. $a < 0$

Coordinate Geometry

18. If the functions g and h are defined as $h(x) = g(3x) + 1$ and $g(x) = 2x^2 - 1$, then what is the value of h(1) ?

    A. 1

    B. 2

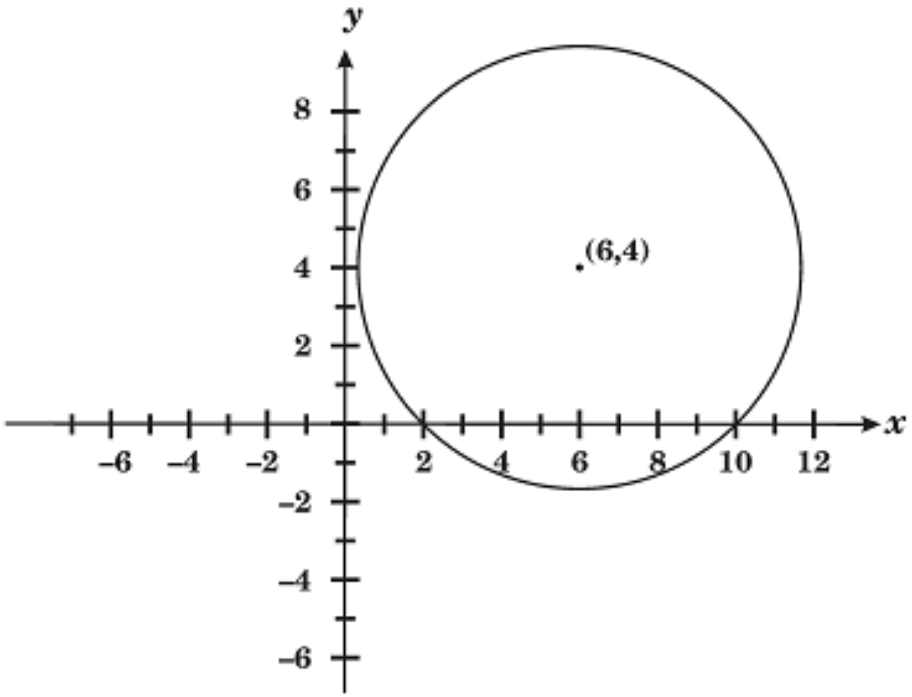
    C. 7

    D. 18

    E. 20

Coordinate Geometry

19.



As shown in the figure, the circle with center (6,4) intersects the x-axis at (2,0) and (10,0). Which of the following is the equation of the circle?

A. $(x-4)^2+(y-6)^2=32$

B. $(x-6)^2+(y-4)^2=32$

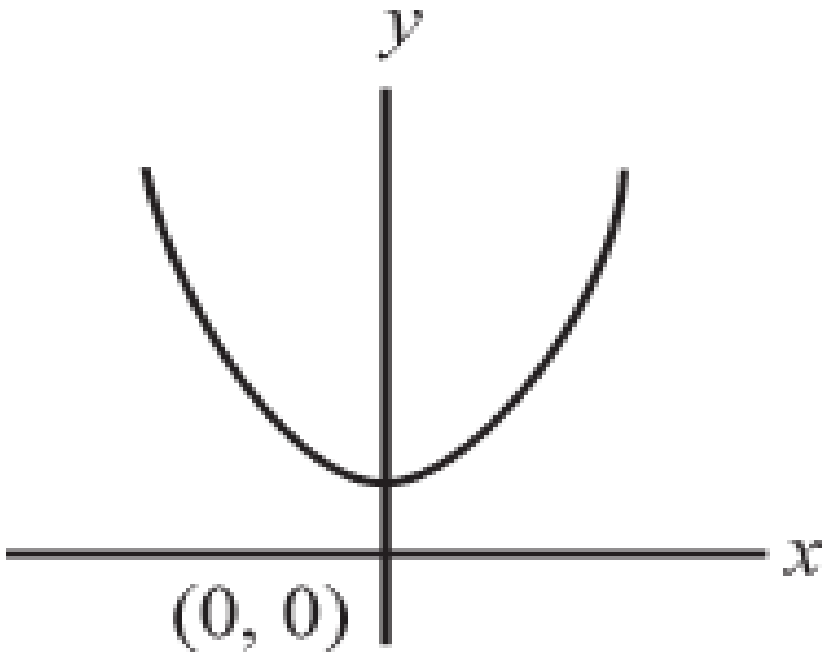
C. $(x+4)^2+(y+6)^2=\sqrt{32}$

D. $(x-6)^2+(y-4)^2=\sqrt{32}$

E. $(x+6)^2+(y+4)^2=32$

Coordinate Geometry

20.



What could be the equation of the given parabola?

A. $x^2 + y^2 = 5$

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

C. $y = x^2 + 5$

D. $y = x^2 - 5$

E. $x + y = 5$

Thank you