GRE Prep

Coordinate Geometry

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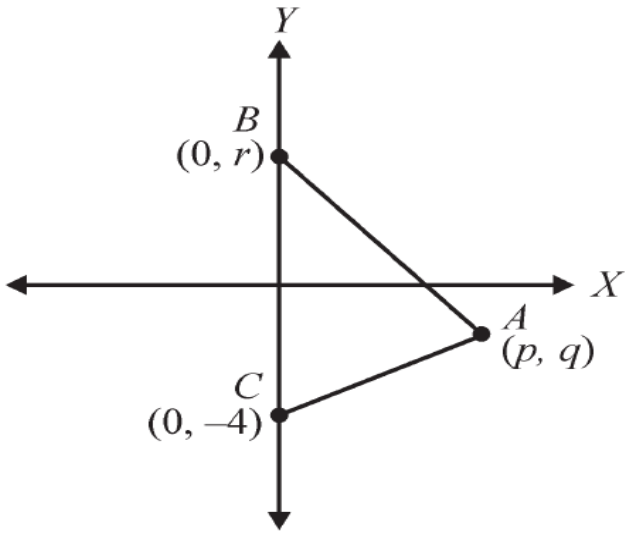
Coordinate Geometry

Coordinate Geometry

1.



In the rectangular coordinate system above, $4 < p < r$.

Quantity A	Quantity B
Area of the triangle ABC	16

Coordinate Geometry

2. The slope of the line 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 line l is -2/3 and passes through the point (r, s).

Quantity A	Quantity B
r	s

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? Select <u>all</u> such statements.

   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 positive, then the slope of the line k is negative.

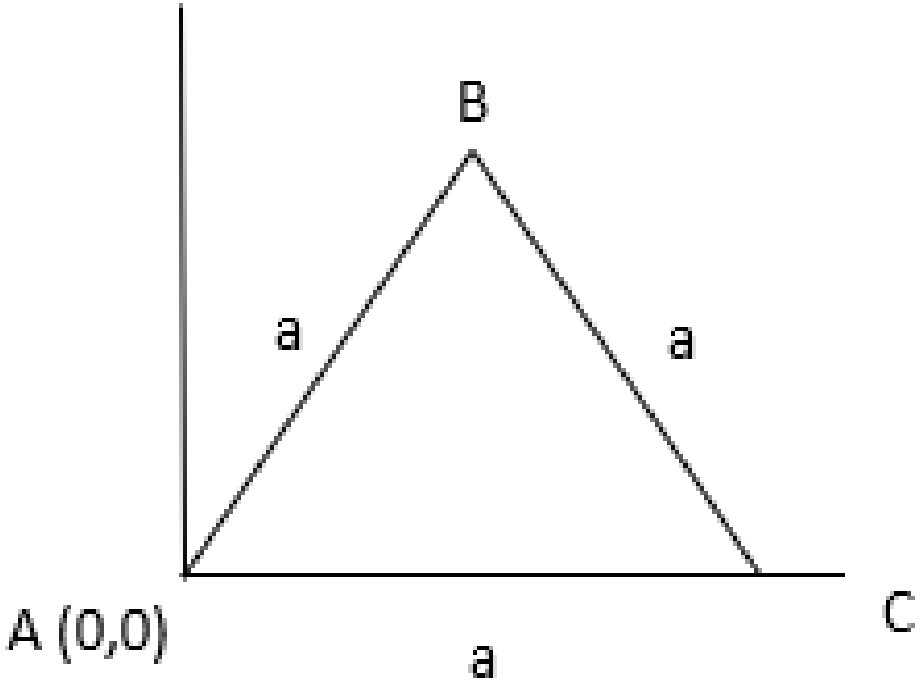
   D. If a and b are both negative, then the slope of the line k is negative.

   E. If a and b have opposite signs, then the slope of the line k is positive.

   F. If a and b have opposite signs, then the slope of the line k is negative.

Coordinate Geometry

6.



In the figure shown above, what is the 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 slope of the line joining points A and B is positive such that point A(p, q) lies in the first quadrant and point $B(m, n)$ lies in the fourth quadrant.

Quantity A	**Quantity B**
$p + q$	$m + n$

Coordinate Geometry

9. The coordinates of three of the vertices of a parallelogram are (–2, 5), (6, 5) and (2, –4).

Quantity A	Quantity B
x−coordinate of the fourth vertex	− 6

Coordinate Geometry

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

    A. - 4

    B. - 5

    C. 5

    D. 6

    E. 4

Coordinate Geometry

11. Slope of the line m is less than -1 and the x-intercept is greater than 1.

Quantity A	Quantity B
The y–intercept of line m	1

Coordinate Geometry

12. The function g is defined as $g(x + 4) = 2x^2 - 5$ for all non zero values of x.

Quantity A	**Quantity B**
$g(-6)$	195

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?

    Indicate all such points.

    A. (0, 8)
    B. (0, 5)
    C. (-1, 4)
    D. (3, 5)
    E. (2, 5)

Coordinate Geometry

14. The area of the triangle with vertices (a, a), $(a + s, a)$ and $(a, a + s)$ is 8.

Quantity A	Quantity B
s	4

Coordinate Geometry

15. In the xy-plane, which quadrant/s may contain the point (x, y) which satisfy the inequality $2x - 3y < -6$?
    Select all such quadrants.

    A. I

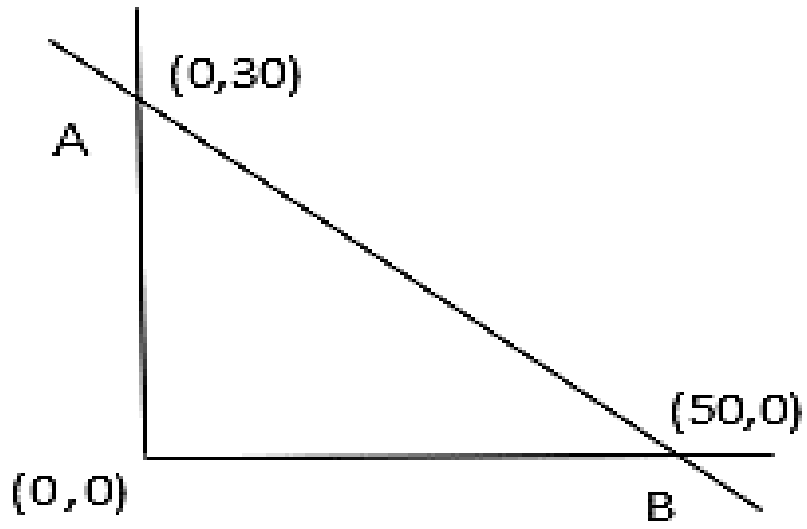
    B. II

    C. III

    D. IV

Coordinate Geometry

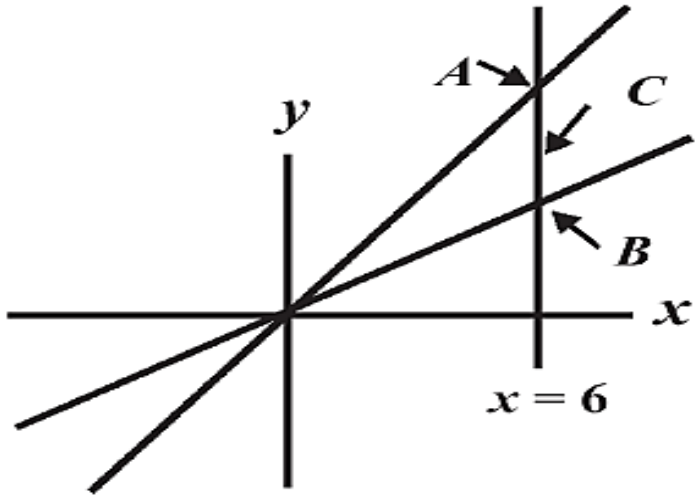
16.



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

Coordinate Geometry

17.



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

Quantity A	**Quantity B**
y co-ordinate of point C	4

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

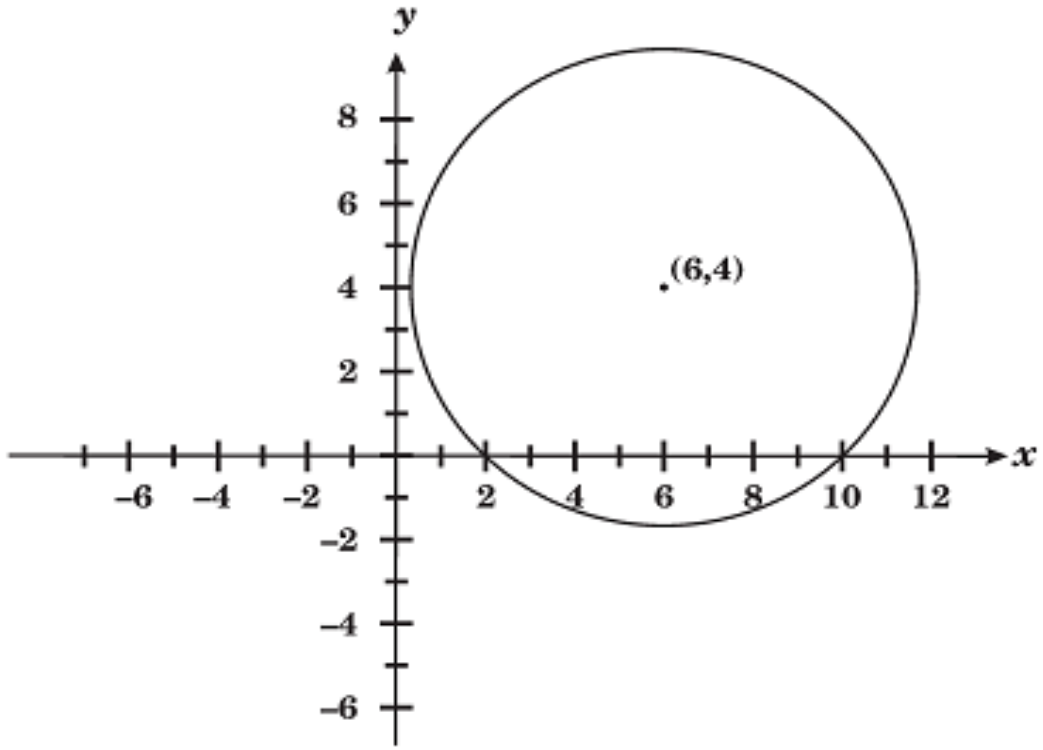
    C. 7

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

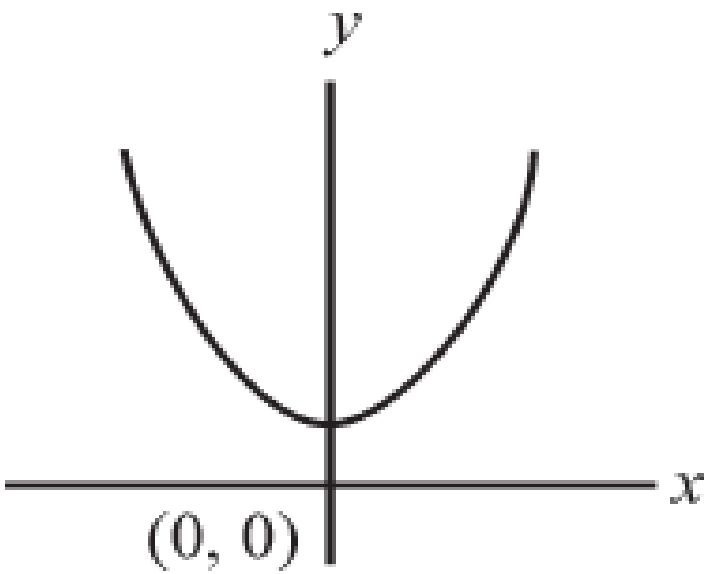
C. $(x+4)^2+(y+6)^2=\sqrt{32}$

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