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CAT PRACTICE : COORDINATE GEOMETRY

You are here: Home ▶ CAT Questionbank ▶ CAT Quant ▶ **Coordinate geometry**

The following topics are covered in the CAT quant section from Geometry - Coordinate Geometry. Detailed explanatory answers, solution videos and slide decks are also provided.

1 STRAIGHTLINE SHORTEST DISTANCE

Set S contains points whose abscissa and ordinate are both natural numbers. Point P, an element in set S has the property that the sum of the distances from point P to the point (3,0) and the point (0,5) is the lowest among all elements in set S. What is the sum of abscissa and ordinate of point P?

- A. 2
- B. 3
- C. 5
- D. 4

Correct answer

Explanatory Answer

Integer coordinates

Hard

2 COORDINATE GEOMETRY AND PROBABILITY

Region R is defined as the region in the first quadrant satisfying the condition $3x + 4y < 12$. Given that a point P with coordinates (r, s) lies within the region R, what is the probability that $r > 2$?

- A. $\frac{1}{4}$
- B. $\frac{1}{3}$
- C. $\frac{1}{5}$
- D. $\frac{1}{2}$

Correct answer

Explanatory Answer

Geometric Probability

Hard

3 COORDINATE GEOMETRY AND GREATEST INTEGER FUNCTION

Region Q is defined by the equation $2x + y < 40$. How many points (r, s) exist such that r is a natural number and s is a multiple of r?

- A. 84
- B. 92
- C. 105
- D. 72

Correct answer

Explanatory Answer

Integer values

Hard

4 ANGLE BISECTOR THEOREM

What is the equation of a set of points equidistant from the lines $y = 5$ and $x = -4$?

- A. $x + y = -1$
- B. $x - y = -1$
- C. $x + y = 1$
- D. $-x + y = -1$

Correct answer

Explanatory Answer

Points equidistant from lines



Hard

5 AREA UNDER CURVE

What is the area enclosed in the region defined by $y = |x - 1| + 2$, line $x = 1$, X-axis and Y-axis?

- A. 5 sq units
- B. 2.5 sq units
- C. 10 sq units
- D. 7 sq units

Correct answer

Explanatory Answer

Modulus graph



Medium

6 AREA OF SEGMENT

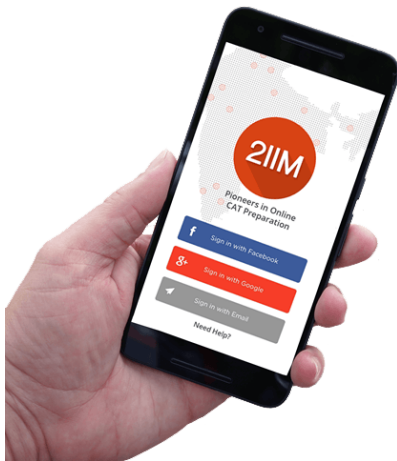
Find the area of the region that comprises all points that satisfy the two conditions $x^2 + y^2 + 6x + 8y \leq 0$ and $4x \geq 3y$.

- A. 25π
- B. $\frac{25\pi}{4}$
- C. $\frac{25\pi}{2}$
- D. None of these

[Correct answer](#)
[Explanatory Answer](#)
[Circle and chord](#)

[Hard](#)

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