

Most Repeated Questions in JEE Main Math from Area Bounded by Parabola or Circle & Line

Q: The area of the region $\{(x, y) : x^2 + 4x + 2 \leq y \leq |x + 2|\}$ is equal to

Q: Let the area of the region $\{(x, y) : 2y \leq x^2 + 3, y + x \leq 3, y \geq |x - 1|\}$ be A. Then 6A is equal to:

Q: The area (in sq. units) of the region $\{(x, y) : 0 \leq y \leq 2|x| + 1, 0 \leq y \leq x^2 + 1, |x| \leq 3\}$ is

Q: If the area of the larger portion bounded between the curves $x^2 + y^2 = 25$ and $y = |x - 1|$ is $\frac{1}{4}(b\pi + c)$, $b, c \in \mathbb{N}$, then $b + c$ is equal to _____.

Q: The area (in sq. units) of the region described by $\{(x, y) : y^2 \leq 2x, \text{ and } y \geq 4x - 1\}$ is

Q: Let α be the area of the larger region bounded by the curve $y^2 = 8x$ and the lines $y = x$ and $x = 2$, which lies in the first quadrant. Then the value of 3α is equal to_____.

Q: Let q be the maximum integral value of p in $[0, 10]$ for which the roots of the equation are rational. Then the area of the region $\{(x, y) : 0 \leq y \leq (x - q)^2, 0 \leq x \leq q\}$ is

Q: If the area of the region bounded by the curves $y^2 - 2y = -x, x + y = 0$ is A, then 8A is equal to

Q: Let the area of the region $\{(x, y) : |2x - 1| \leq y \leq |x^2 - x|, 0 \leq x \leq 1\}$ be A. Then $(6A + 11)^2$ is equal to____

Q: The area bounded by the curves $y = |x^2 - 1|$ and $y = 1$ is

Q: Let $A_1 = \{(x, y) : |x| \leq y^2, |x| + 2y \leq 8\}$ and $A_2 = \{(x, y) : |x| + |y| \leq k\}$. If $27(\text{Area } A_1) = 5(\text{Area } A_2)$, then k is equal to:

Q: The area of the region given by $A = \{(x, y) : x^2 \leq y \leq \min\{x + 2, 4 - 3x\}\}$ is:

Q: The area bounded by the curve $y = |x^2 - 9|$ and the line $y = 3$ is: