KENDRIYA VIDYALAYA SANGATHAN AHMEDABAD REGION

MATHS WORKSHEET I: 2023 – 24

CLASS: XII

CHAPTER : APPLICATION OF INTEGRALS

	MCQS
Q. 1: -	The area enclosed by the circle $x^2 + y^2 = 2$ is equal to a) 4π sq units b) $2\sqrt{2}$ sq units c) $4\pi^2$ sq units d) 2π sq units
Q. 2: -	The area of the region bounded by the curve y=x+1 and the lines x=2 and x=3 is a) $\frac{7}{2}$ sq units b) $\frac{9}{2}$ sq units c) $\frac{11}{2}$ sq units d) $\frac{13}{2}$ sq units
Q. 3: -	The area of the region bounded by the parabola $y^2 = x$ and the straight line 2y=x is a) $\frac{4}{3}$ sq units b) 1 sq unit c) $\frac{2}{3}$ sq units d) $\frac{1}{3}$ sq units
Q. 4: -	Assertion(A): The area of the region bounded by the curve $y = x^2$ and the line y $= 4$ is $\frac{3}{32}$ sq units. Reason (R): $2 \int_0^4 \sqrt{y}\, dy = \frac{32}{3}$ (a) A is true , R is true , R is correct explanation for A (b) A is true , R is true , R is not correct explanation for A

	(c) A is true , R is false
	(d) A is false , R is true.
Q. 5: -	Assertion : The area bounded by the curve y = 2cosx and the x-axis from x = 0 to x = 2π is 8 sq. units.
	Reason : The area bounded by the curve y = sinx between x = π and x = 2π is 4 sq. units.
	(a) A is true , R is true , R is correct explanation for A
	(b) A is true , R is true , R is not correct explanation for A
	(c) A is true , R is false
	(d) A is false , R is true.

NOTE: FOR Q NO 6 TO 10 USE SEPARATE SHEET TO SOLVE AND ATTACH WITH WORKSHEET.

Q. 6: -	Find the area of the region bounded by line x+2y =4 and coordinate axes.
Q. 7: -	Find the area enclosed by y=3x-5,y=0,x=3 and x=5
Q. 8: -	Find the area of the region enclosed by the curve y=cosx between x=0 and x= 2π
Q. 9: -	Find the area of the region enclosed between the parabola y^2 =4ax and its latus rectum.
Q. 10: -	Find the area of region in the first quadrant enclosed by x- axis,and x= $\sqrt{3}$ y and the circle $x^2 + y^2 = 4$