



ST. LAWRENCE HIGH SCHOOL
A JESUIT CHRISTIAN MINORITY INSTITUTION



Worksheet-23

SUBJECT – MATHEMATICS

2nd-term

Chapter: Calculus

Class: XII

Topic : Definite integral as an area

Date: 07.11.2020

Choose the correct option

(1 X 15= 15)

1. The area bounded by the straight lines $2x = 3y$, $x = 3$, $x = 5$ and x -axis (in square unit) is –
 - a) 16
 - b) 8
 - c) 4
 - d) $\frac{16}{3}$
2. The area bounded by the curve $2y^2 = 3x$, & $y = 1$, $y = 4$ and y -axis (in square unit) is –
 - a) 7
 - b) 14
 - c) $\frac{64}{9}$
 - d) $\frac{110}{9}$
3. The area bounded by the curve $y = \cos x$, x -axis and the two ordinates $x = -\frac{\pi}{2}$ & $x = \frac{\pi}{2}$ (in square unit) is –
 - a) 2
 - b) -2
 - c) 1
 - d) -1
4. The area bounded by the curve $y = \sin x$, x -axis and the two ordinates $x = \pi$ & $x = 2\pi$ (in square unit) is –
 - a) 1
 - b) -1
 - c) -2
 - d) 2
5. The area bounded by the straight lines $x + 2y = 8$, $x = 2$, $x = 4$ (in square unit) is –
 - a) 2
 - b) 3
 - c) 4
 - d) 5

6. The area bounded by the curve $y^2 = x$, the straight line $y = 3$ and y -axis (in square unit) is-
- a) 8
 - b) 9
 - c) 11
 - d) 12
7. The area above the x -axis bounded by the straight lines $x - 2y + 4 = 0$, $x = 3$, $x = 6$ (in square unit) is -
- a) 51
 - b) 32
 - c) 30
 - d) None of these.
8. The area bounded by the curve $y^2 = x$, the straight lines $x = 1$ & $x = 9$ and x -axis (in square unit) is-
- a) 51
 - b) 52
 - c) 53
 - d) None of these.
9. The area (in square unit) bounded by x -axis and one arc of the sine curve $y = \sin x$ between $(0,0)$ and $(\pi, 0)$ is -
- a) 1
 - b) 2
 - c) 3
 - d) 4
10. The area (in square unit) bounded by x -axis and one arc of the cosine curve $y = \cos x$ between $(\frac{\pi}{2}, 0)$ and $(\frac{3\pi}{2}, 0)$ is -
- a) 2
 - b) 3
 - c) 4
 - d) 5
11. Find the area (in square unit) in the fourth quadrant bounded by the curve $y = x^3 - 8$ and the co-ordinate axes -
- a) 10
 - b) 11
 - c) 12
 - d) 13
12. The area bounded by the straight lines $3x - 2y = 6$, $y = 0$, $x = 4$ (in square unit) is -
- a) 1
 - b) 2
 - c) 3
 - d) 4

13. The area bounded by the straight lines $4x - y = 3$, $x = 1$, $y = 0$, $x = 3$ (in square unit) is -

- a) 10
- b) 11
- c) 12
- d) 13

14. Find the area (in square unit) enclosed by $x = a \cos \theta$, $y = a \sin \theta$ -

- a) πa^2
- b) πa^3
- c) πa^4
- d) πa

15. Find the area (in square unit) enclosed by $x = a \cos \theta$, $y = b \sin \theta$ -

- a) πa
- b) πb
- c) $\pi b a^4$
- d) πab

Prepared by :-

Mr. SUKUMAR MANDAL (SkM).