INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet for the Academic Year 2026-27

CLASS: 12 SUBJECT: MATHEMATICS DATE: 08/11/2026

LESSON: 8 – APPLICATIONS OF INTEGRALS

1. Area bounded by $y^2 = x \; and \; 2y = x \; is$ … … … ….

2. The area between x-axis y = cosx when $0 \leq x \leq 2\pi$ is ……

3. The ratio between y = cosx and y = cos2x and x- axis from x = 0 to x =$\pi/3$ …….

4. Find the area bounded by the parabola y^2 = 4ax and its latus rectum

5. Sketch the graph y = Ix+1I. Evaluate $\int_{-4}^{2} Ix + 1I dx$

6. Using integration find the area of the region $\{ (x, y): x^2 - 4y \leq 0, y - x \leq 0 \}$

7. Using integration find the area enclosed within the curve: $25x^2 + 16y^2 = 400$.

8. Find the area of the region bounded by the curve $x = at^2 \; and \; y = 2at$ between the ordinate corresponding to t = 1 and t = 2.

9. Find the area under the curve $y = \sqrt{a^2 - x^2} \; in cluded \; between \; the \; lines \; x = 0 \; and \; x = a$.

10. Find the area bounded by the curve $y = \sqrt{16 - x^2} \; and \; the \; x - axis$.