



# INDIAN SCHOOL DARSAIT DEPARTMENT OF MATHEMATICS



**Subject :MATHEMATICS Topic :APPLICATION OF INTEGRATION (wk-8) Date :1-11-2017**  
**Resource Person: Premela Isac Date of submission :8-11-2017**  
**Name of the Student: \_\_\_\_\_ Class & Division: Roll. Number:**

Sl.No.	Questions	Marks
1	Using integration, find the area of the region bounded by the curves $y = \sqrt{4 - x^2}, x^2 + y^2 - 4x = 0$ and the x- axis. (Foreign 2016)	6
2	Using integration find the area of the region $\{(x, y): y^2 \leq 6a - a x^2 + y^2 \leq 16a^2\}$ (South region 2016)	6
3	Using the method of integration, find the area of the triangular region whose vertices are (2, - 2), (4, 3) and (1, 2). (North Region 2016)	6
4	Using integration, find the area of the triangle formed by negative x axis and tangent and normal to the circle $x^2 + y^2 = 9$ at $(-1, 2\sqrt{2})$ . (East Region 2016)	6
5	Prove that the curves $y^2 = 4x$ and $x^2 = 4y$ divide the area of square bounded by $x = 0, x = 4, y = 4$ and $y = 0$ in to three equal parts. (Central Region 2016)	6
6	Using integration, find the area bounded by the tangent to the curve $4y = x^2$ at the point (2, 1) and the lines whose equations are $x = 2y$ and $x = 3y - 3$ . (Sample paper 2016)	6
7	Find the area of the region in the first quadrant enclosed by the x – axis, the line $y = x$ and the circle $x^2 + y^2 = 32$ . (Delhi 2014)	6
8	Using integration, find the area of the region bounded by triangle whose vertices are (- 1, 2), (1, 5) and (3, 4). (All India 2014)	6
9	Find the area of the smaller region bounded by the ellipse $\frac{x^2}{9} + \frac{y^2}{4} = 1$ and the line $\frac{x}{3} + \frac{y}{2} = 1$ . (Foreign 2014)	6
10	Using integration, find the area bounded by the curve $x^2 = 4y$ and the line $x = 4y - 2$ . (Delhi 2014)	6

Dear Children,  
 There is no substitute for hard work.  
 All the best. God Bless.