

BCM SCHOOL LUDHIANA
CLASS XII
APPLICATION OF INTEGRALS

1	Compute the area bounded by the lines $x + 2y = 2$, $y - x = 1$ and $2x + y = 7$.
2	The area between $x = y^2$ and $x = 4$ is divided into equal parts by the line $x = a$, find the value of a .
3	Find the area between the curve $y = x + 3 $, the x - axis and the lines $x = -6$ and $x = 0$.
4	Draw a rough sketch of the given curve $y = 1 + x + 1 $, $x = -3$, $x = 3$, $y = 0$ and find the area of the region bounded by them, using integration
5	Using integration, find the area of the region bounded by the line $2y = 5x + 7$, x - axis and the lines $x = 2$ and $x = 8$.
6	Sketch the region $\{(x, 0): y = \sqrt{4 - x^2}\}$ and x -axis. Find the area of the region using integration.
7	Find the area enclosed by the curve $x=3 \cos t$, $y=2 \sin t$.
8	Find the area of the region bounded by the curves $x = at^2$ at and $y = 2at$ at between the ordinate corresponding to $t=1$ and $t = 2$.
9	Find the area of a minor segment of the circle $x^2 + y^2 = a^2$ cut off by the line $\frac{a}{2}$.
10	Draw a rough sketch of the curve $y = \sqrt{x - 1}$ in the interval $[1,5]$. Find the area under the curve and between the lines $x=1$ and $x = 5$.
11	Using method of integration find the area of the triangle ABC, coordinates of whose vertices are A (2, 0), B (4, 5) and C (6, 3).