Anupam Nigam

- 1- $\int_0^1 \int_0^{x^2} (x + 2y^2) dy dx$

- 2- Evaluate $\iint_R xy dx$, where R is bounded by the triangle whose vertices are $(0,0), (5,0), (5,5)$

- 3- Show that $\int_1^a \int_1^b \frac{1}{xy} dy dx = (\log a)(\log b)$

- 4- Find $\int_0^{\pi/2} \int_0^1 y \sin x \ dy dx$

- 5- Evaluate $\iint_R xy \ dx dy$ where R is the region of the circle with center O and radius 1 in second quadrant.

- 6. Change the order of Integral (Do not solve).

    1. $\int_0^1 \int_0^x \sqrt{1 - x^2} dy dx$
    2. $\int_0^9 \int_0^{\sqrt{9-y}} F(x, y) dx dy$

- 7. $\int_1^2 \int_1^x \frac{x^2}{y^2} dy dx$

- 8- Change the order of integration and hence evaluate it $\int_0^a \int_x^a (x^2 + y^2) dy dx$

- 9- Change the order of integration for $\int_0^{4a} \int_{x^2/4a}^{2\sqrt{ax}} xy \ dy dx$

- 10- Write three real life application of multiple integral.