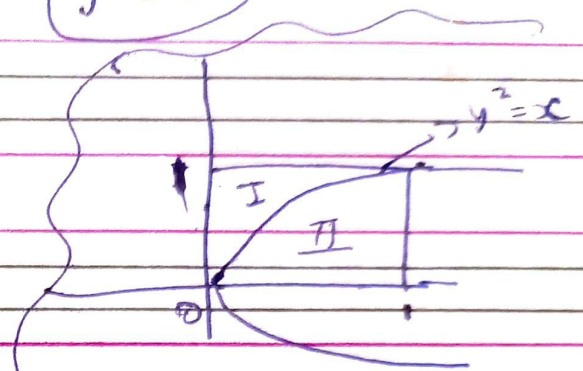


$$\int_0^m \int_0^1 \int_0^1 e^{\max\{y^3, x^{3/2}\}} dx dy = e-1$$

$$= \int \int \int_I + \int \int \int_{II}$$

$$y^3 = x^{3/2}$$

$$y^2 = x$$



in II region

$$x > y^2$$

$$x^{3/2} > y^3$$

in I region

$$y^2 > x$$

$$y^3 > x^{3/2}$$

$$\int \int \int_I e^{y^3} + \int \int \int_{II} e^{x^{3/2}}$$

$$\int_0^m \int_{y=0}^1 \int_{x=0}^{y^2} e^{y^3} + \int_0^m \int_{x=0}^{\sqrt{x}} \int_{y=0}^{x^{3/2}} e^{x^{3/2}}$$

$$\int_0^m \int_{y=0}^1 y^2 e^{y^3} + \int_0^m \int_{x=0}^1 \sqrt{x} e^{x^{3/2}}$$

$$\Rightarrow \frac{1}{3} \int_0^m [e^{y^3}]_0^1 + \frac{2}{3} \int_0^m [e^{x^{3/2}}]_0^1$$

$$\Rightarrow \frac{(m-1)(e-1)}{3} + \frac{2(m-1)(e-1)}{3} = (e-1)$$

$$\Rightarrow (m-1) + 2(m-1) = 3$$

$$\Rightarrow 3m - 3 = 3$$

$$3m = 6$$

$$m = 2$$