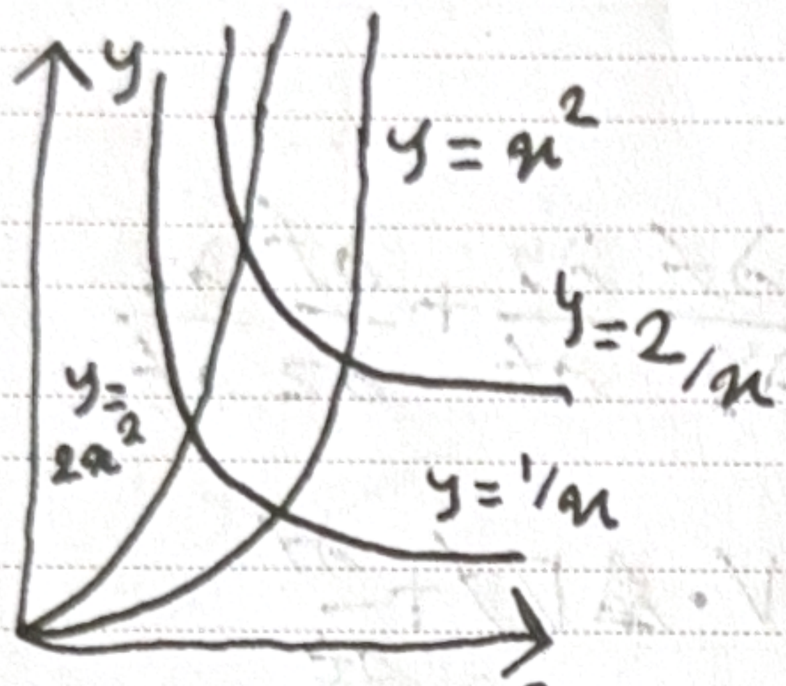
Subject: Session 55

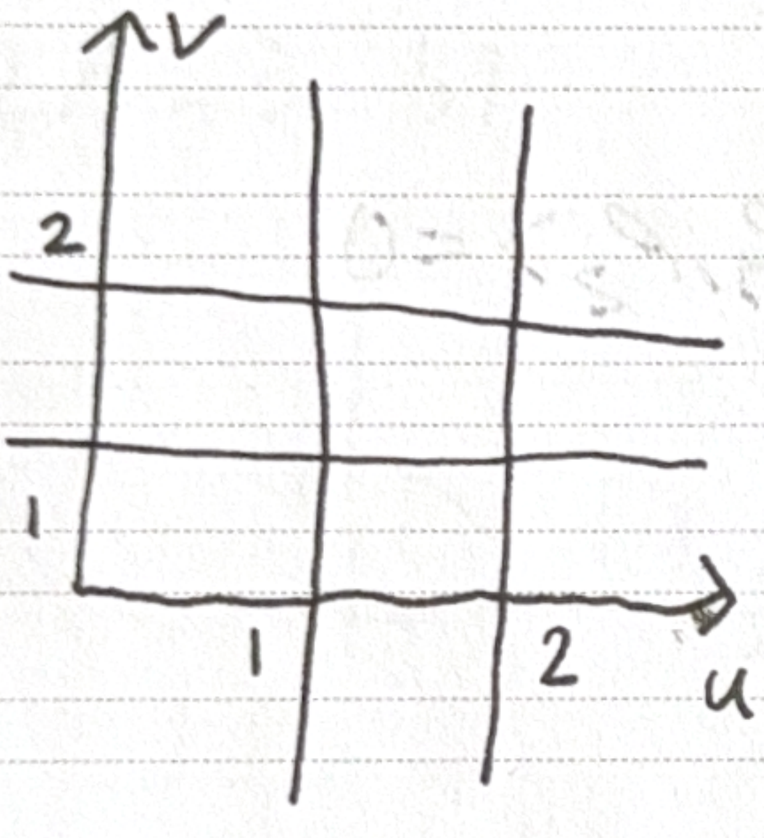
Year. Month. Date. ( )



$u = xy$

$v = \frac{y}{x^2}$

$$\begin{vmatrix} y & -2\frac{y}{x^3} \\ x & \frac{1}{x^2} \end{vmatrix}$$



$$= \frac{y}{x^2} + \frac{2y}{x^2} = \frac{3y}{x^2} = 3v$$

$$\rightarrow dx\,dy = \frac{1}{3}\,du\,dv$$

$$\int_1^2 \int_1^2 \frac{1}{3v}\,du\,dv = \frac{1}{3}\ln 2 \approx .23$$

Answer: $\frac{2}{3}\ln 2$

Check: $\frac{1}{3}\ln 2$ ✓