Q.1 Find the length of the arc of the curve $y = \log\left(\frac{e^x - 1}{e^x + 1}\right)$ from $x = 1$ to $x = 2$.

Q.2 Find the length of an arc of the curve $x^2 = a^2(1 - e^{y/a})$ measured from $(0,0)$ to (x,y).

Q.3 Find the length of astroid $x^{2/3} + y^{2/3} = a^{2/3}$.

Q.4 Find the volume of solid of revolution of loop of curve $y^2 = x^4(x+2)$ about x axis.

Q.5 $y = x^2 + 1$ and $y = -x + 3$ is rotated about x-axis. Find volume of revolution.