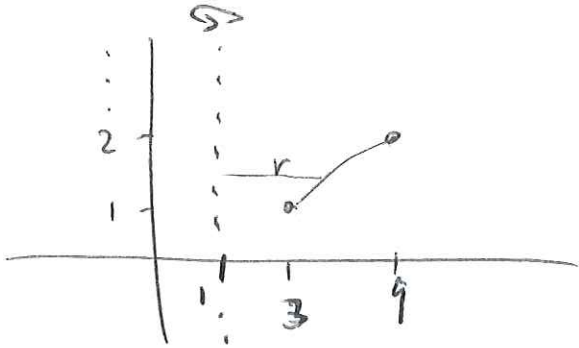


6]

$$SA = \int_a^b 2\pi r \, ds$$



parameterize

$$y = t$$

$$x = 1 + 2t^2$$

$$1 \leq t \leq 2$$

$$r = x - 1$$

$$\begin{aligned} r &= (1 + 2t^2) - 1 \\ &= 2t^2 \end{aligned}$$

$$\int_1^2 2\pi (2t^2) \sqrt{(4t)^2 + 1^2} \, dt$$

$$= \int_1^2 4\pi t^2 \sqrt{16t^2 + 1} \, dt$$