

$$\begin{aligned} V &= \iint_{x^2+y^2 \leq 25} \sqrt{x^2+y^2} \, dA = \int_0^{2\pi} \int_0^5 \sqrt{r^2} \, r \, dr \, d\theta = \int_0^{2\pi} d\theta \int_0^5 r^2 \, dr = [\theta]_0^{2\pi} \left[\frac{1}{3} r^3 \right]_0^5 = 2\pi \left(\frac{125}{3} \right) \\ &= \frac{250}{3} \pi \end{aligned}$$