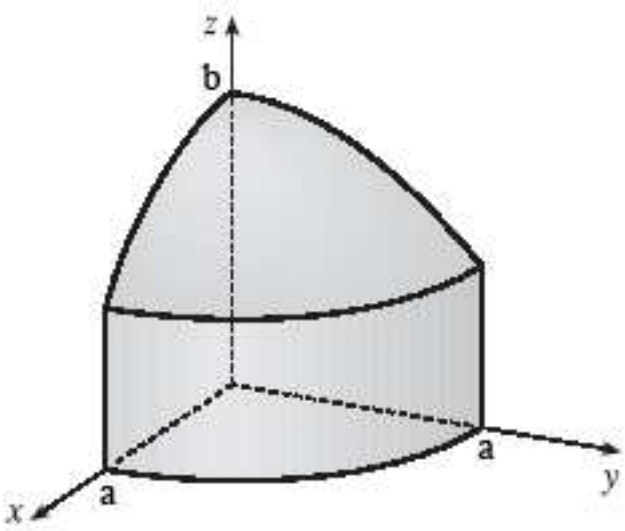

Assume $a = 2, b = 9$.

The region of integration is given in cylindrical coordinates by
$E = \{(r, \theta, z) | 0 \le \theta \le \pi/2, 0 \le r \le 2, 0 \le z \le 9 - r^2\}$.
This represents the solid region in the first octant enclosed by the circular cylinder $r = 2$, bounded above by $z = 9 - r^2$, a circular paraboloid, and bounded below by the xy-plane.

$$\begin{aligned}\int_0^{\pi/2} \int_0^2 \int_0^{9-r^2} r \, dz \, dr \, d\theta &= \int_0^{\pi/2} \int_0^2 [rz]_{z=0}^{z=9-r^2} \, dr \, d\theta \\ &= \int_0^{\pi/2} \int_0^2 r(9 - r^2) \, dr \, d\theta = \int_0^{\pi/2} d\theta \int_0^2 (9r - r^3) \, dr \\ &= [\theta]_0^{\pi/2} \left[\tfrac{9}{2} r^2 - \tfrac{1}{4} r^4\right]_0^2 = 7\pi\end{aligned}$$