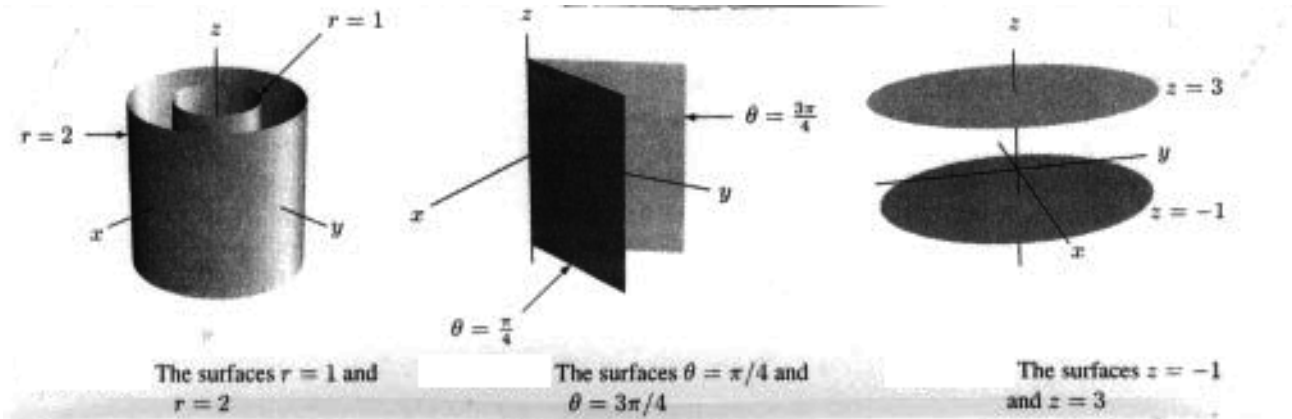


Surfaces obtained by setting one coordinate equal to a constant:



$$(1, \theta, z)$$

$$\left(r, \frac{\pi}{4}, z\right)$$

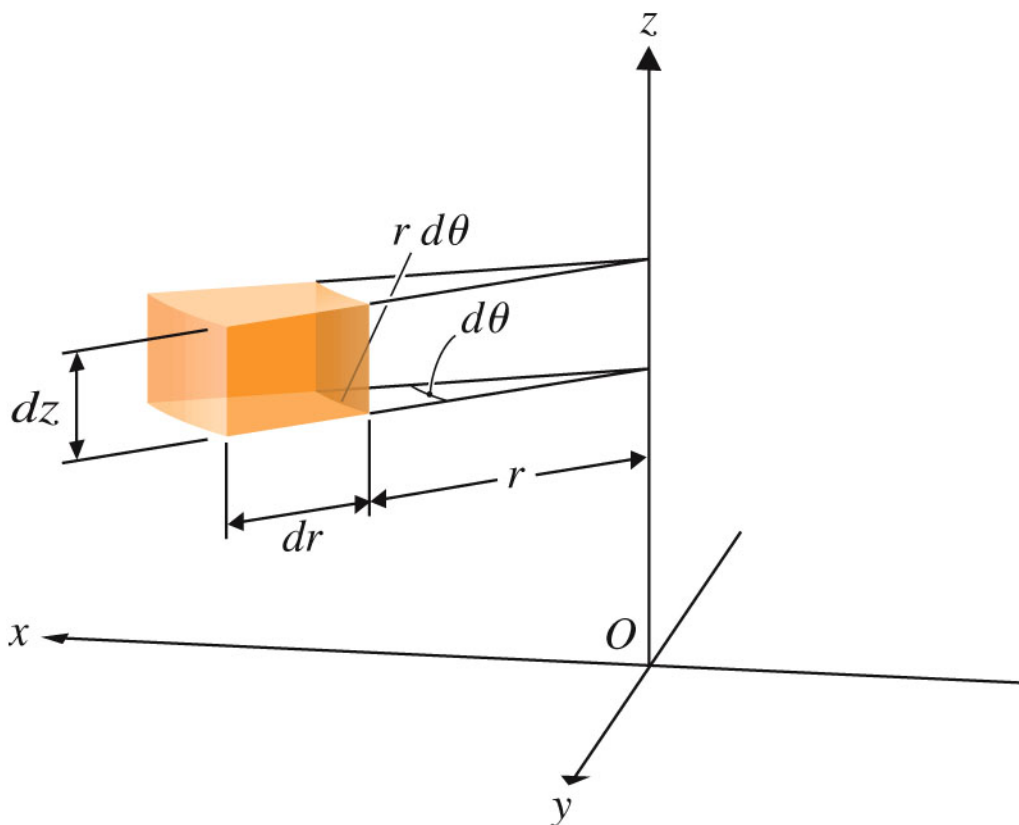
$$(r, \theta, -1)$$

$$(2, \theta, z)$$

$$\left(r, \frac{3\pi}{4}, z\right)$$

$$(r, \theta, 3)$$

The volume element in cylindrical coordinates.



$$\Delta V = \Delta A \Delta z = r dr d\theta dz$$

Other orders of integration are also possible.