

# Derivation Of Volume Of A Cylinder

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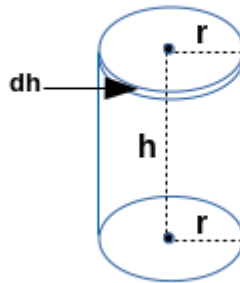


Figure 113.6

Consider the cylinder illustrated in figure 113.6.

$$\text{Volume of cylinder} = \pi r^2 h$$

### Derivation Of Volume Of A Cylinder

Area of cross-section of cylinder =  $\pi r^2$

Volume of cross-sectional area with very small height,  $dh = \pi r^2 dh$

$$\text{So, volume of cylinder} = \int_0^h \pi r^2 dh \text{-----(1)}$$

$$= \pi r^2 h$$

**The string is S<sub>1</sub>P<sub>1</sub>A<sub>14</sub> - Empty Space – Containership - Volume**