

Assignment-1

AI21BTECH11023

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Given,

Radius of cylinder(R)=3 cm

Height of the cylinder(H)= 7 cm

Height of the cone removed(h)=3 cm

Volume of cylinder (V_1)= $\pi R^2 H$

Volume of Cone (V_2)= $\frac{1}{3}\pi R^2 h$

Volume of Hemisphere (V_3)= $\frac{2}{3}\pi R^3$

According to question Hemisphere, Cone are removed from Cylinder

\therefore remaining volume = $V_1 - V_2 - V_3$

$= \pi R^2 H - \frac{1}{3}\pi R^2 h - \frac{2}{3}\pi R^3$

Substituting the values above we get,

$\approx 113.142 \text{ cm}^3$

Table 1: Variables used

Radius of cylinder(same as cone and hemisphere)	R
Height of cone removed	h
Height of cylinder	H
Volume of cylinder	V_1
Volume of cone	V_2
Volume of hemisphere	V_3