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 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