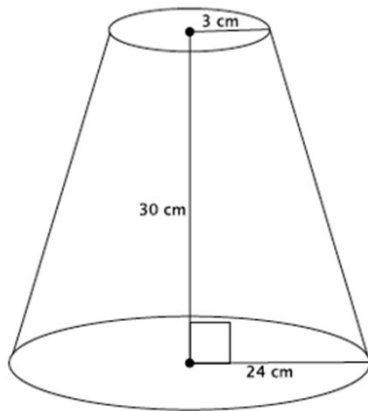


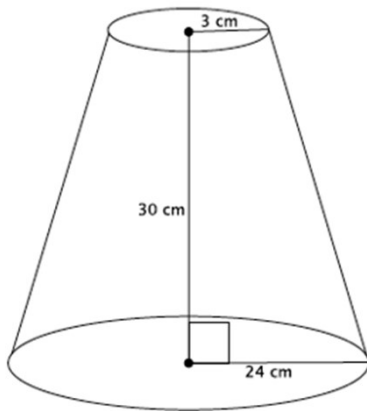
Volume of Truncated Cone

1. Find the volume of the truncated cone.



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Let x cm represent the height of the small cone.

$$\begin{aligned}\frac{3}{24} &= \frac{x}{x+30} \\ 3x+90 &= 24x \\ 90 &= 21x \\ \frac{30}{7} &= x \\ 4.3 &\approx x\end{aligned}$$

The volume of the small cone is

$$\begin{aligned}V &\approx \frac{1}{3}\pi(3)^2(4.3) \\ &\approx \frac{38.7}{3}\pi \\ &= 12.9\pi.\end{aligned}$$

The volume of the large cone is

$$\begin{aligned}V &\approx \frac{1}{3}\pi(24)^2 \\ (34.3) &\approx \frac{19756.8}{3}\pi \\ &= 6585.6\pi.\end{aligned}$$

The volume of the truncated cone is

$$\begin{aligned}6585.6\pi - 12.9\pi \\ = (6585.6 - 12.9)\pi \\ = 6572.7\pi.\end{aligned}$$

The volume of the truncated cone is approximately 6572.7π cm³

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