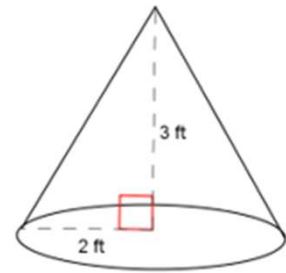
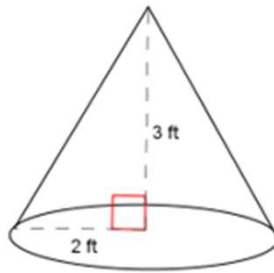
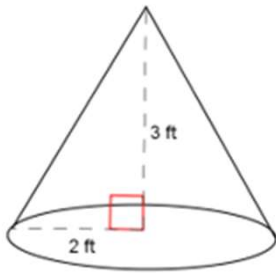
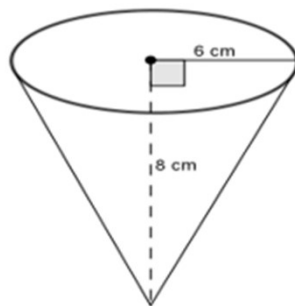
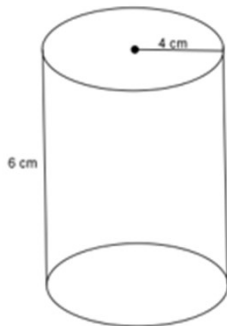


Volumes of Cones & Cylinders

1. Use the diagram to find the total volume of the three cones shown below.



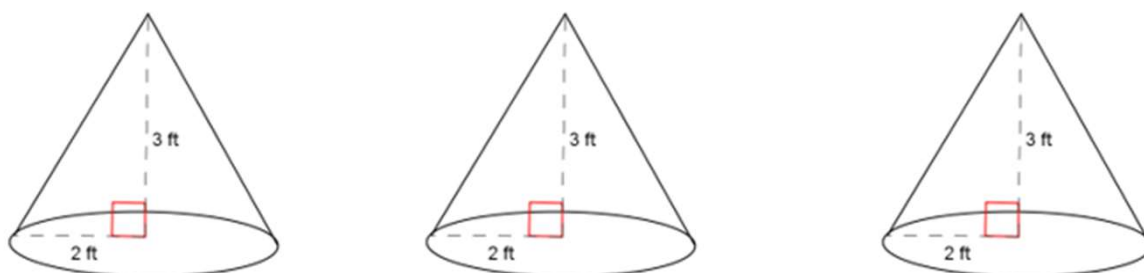
2. Use the diagram below to determine which has the greater volume, the cone or the cylinder.



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Volumes of Cones & Cylinders

1. Use the diagram to find the total volume of the three cones shown below.

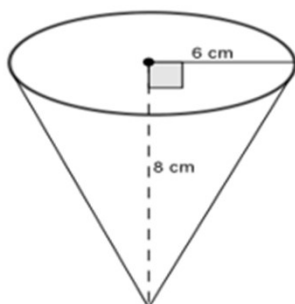
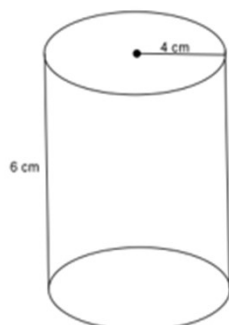


Since all three cones have the same base and height, the volume of the three cones will be the same as finding the volume of a cylinder with the same base radius and same height.

$$\begin{aligned}V &= \pi r^2 h \\V &= \pi(2)^2 3 \\V &= 12\pi\end{aligned}$$

The volume of all three cones is $12\pi \text{ ft}^3$.

2. Use the diagram below to determine which has the greater volume, the cone or the cylinder.



$$\begin{aligned}V &= \pi r^2 h \\V &= \pi 4^2 (6) \\V &= 96\pi\end{aligned}$$

The volume of the cylinder is $96\pi \text{ cm}^3$.

$$\begin{aligned}V &= \frac{1}{3} \pi r^2 h \\V &= \frac{1}{3} \pi 6^2 (8) \\V &= 96\pi\end{aligned}$$

The volume of the cone is $96\pi \text{ cm}^3$.

The volume of the cone is $96\pi \text{ cm}^3$.

The volume of the cylinder and the volume of the cone are the same, $96\pi \text{ cm}^3$.

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