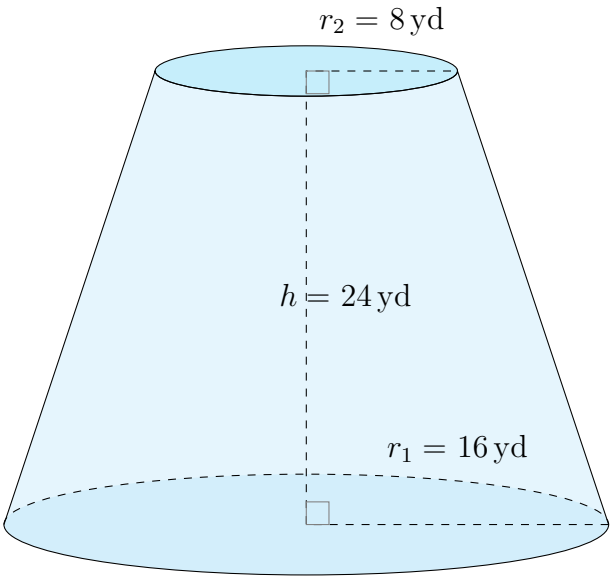
Surface Area and Volume of Conical Frustums (I)

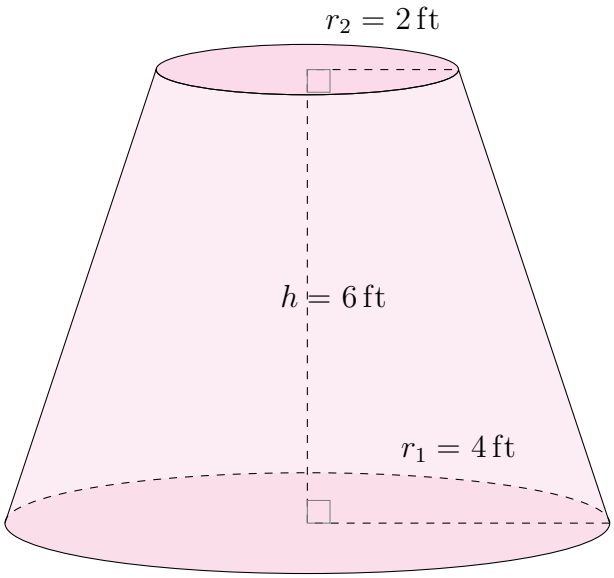
Calculate the surface area and volume for each conical frustum.

$$\text{Surface Area} = \pi(r_1 + r_2)\sqrt{(r_1 - r_2)^2 + h^2} + \pi {r_1}^2 + \pi {r_2}^2 \quad \text{Volume} = \frac{\pi}{3} h({r_1}^2 + {r_2}^2 + r_1 r_2)$$

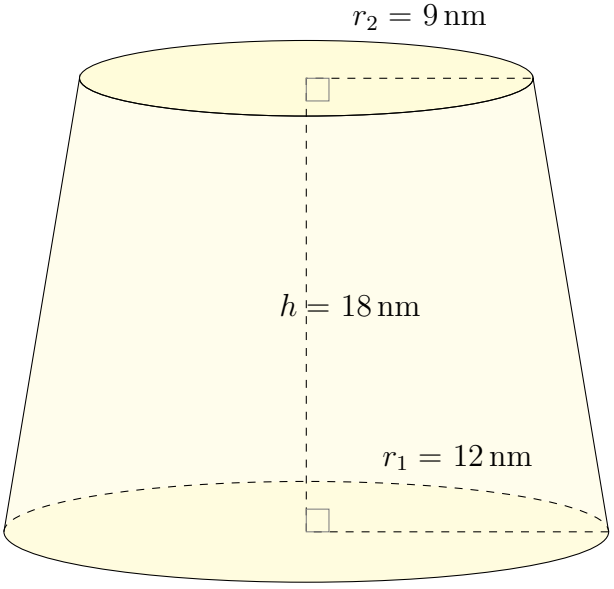
1.



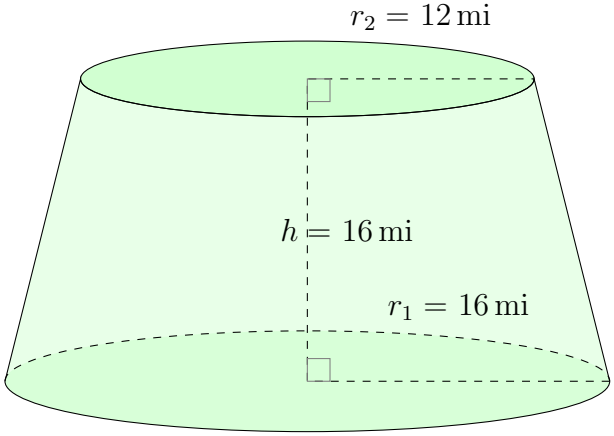
2.



3.



4.

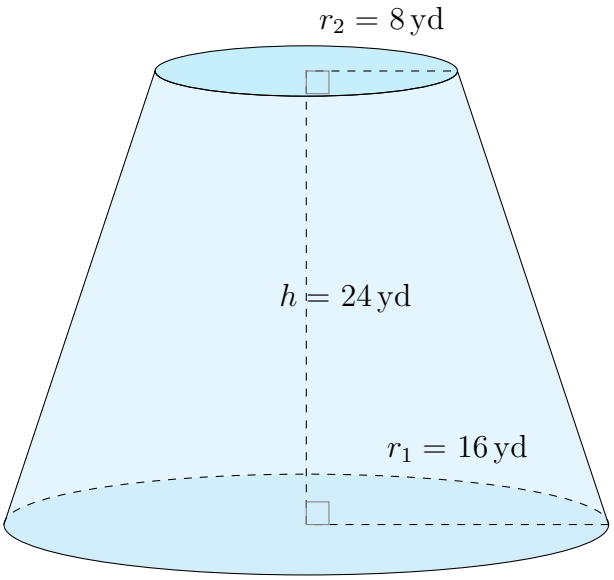


Surface Area and Volume of Conical Frustums (I) Answers

Calculate the surface area and volume for each conical frustum.

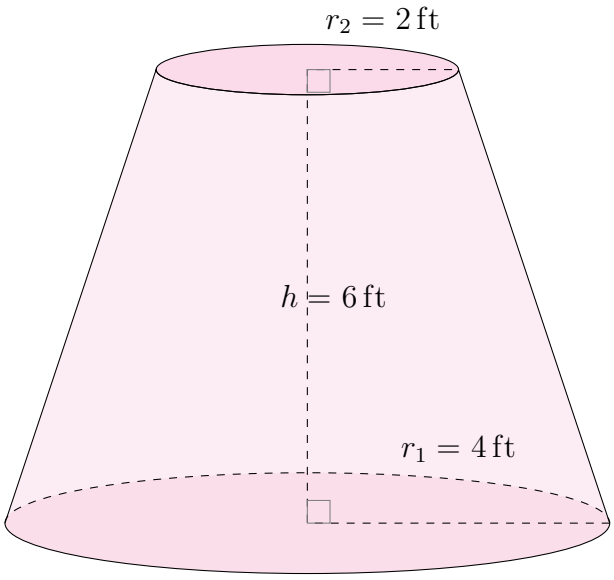
$$\text{Surface Area} = \pi(r_1 + r_2)\sqrt{(r_1 - r_2)^2 + h^2} + \pi {r_1}^2 + \pi {r_2}^2 \quad \text{Volume} = \frac{\pi}{3} h({r_1}^2 + {r_2}^2 + r_1 r_2)$$

1.



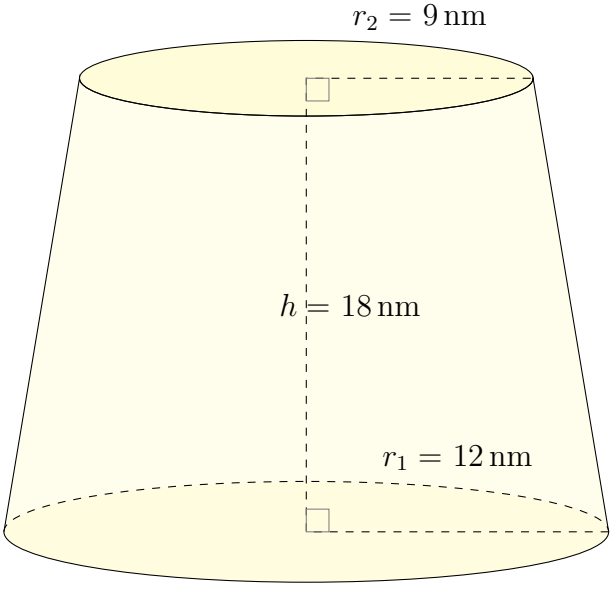
Surface Area: $2913\,\text{yd}^2$
Volume: $11{,}259\,\text{yd}^3$

2.



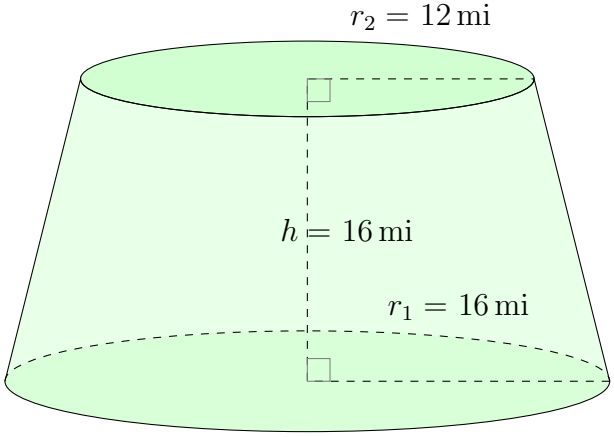
Surface Area: $182\,\text{ft}^2$
Volume: $176\,\text{ft}^3$

3.



Surface Area: $1911\,\text{nm}^2$
Volume: $6277\,\text{nm}^3$

4.



Surface Area: $2707\,\text{mi}^2$
Volume: $9919\,\text{mi}^3$