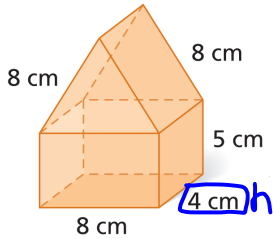
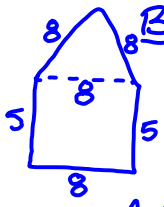




Base

$B = A_{\square} + A_{\Delta}$

$A_{\square} = 5 \cdot 8 = 40$

$A_{\Delta} = \frac{1}{4} s^2 \sqrt{3}$

$= \frac{1}{4}(64)\sqrt{3}$

$= 16\sqrt{3}$

$B = 40 + 16\sqrt{3}\ cm^2$

$V = B \cdot h$

$= (40 + 16\sqrt{3}) \cdot 4$

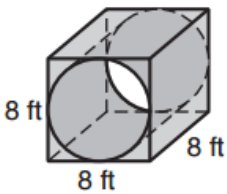
$= 160 + 64\sqrt{3}\ cm^3$

$SA = 2B + Ph$

$= 2(40 + 16\sqrt{3}) + (8+5+8+8+5)4$

$= 80 + 32\sqrt{3} + 136$

$= 216 + 32\sqrt{3}\ cm^2$



$V = V_{cube} - V_{cylinder}$

$= Bh - \pi r^2 \cdot h$

$= (8 \cdot 8)8 - \pi 4^2 \cdot 8$

$= 512 - 128\pi\ ft^3$

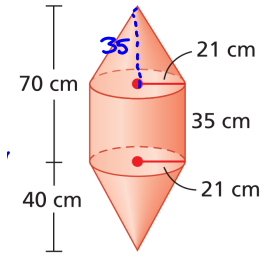
$SA = SA_{cube} - 2(A_{circle}) + LA_{cyl}$

$= (2B + Ph) - 2(\pi r^2) + 2\pi r h$

$= (2(64) + (32)(8)) - 2\pi(4)^2 + 2\pi 4 \cdot 8$

$= 128 + 256 - 32\pi + 64\pi$

$= 384 + 32\pi\ ft^2$



Slant Height

Top Cone: $l^2 = 21^2 + 35^2$

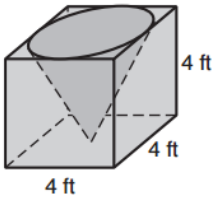
$l = \sqrt{1666} = 7\sqrt{34}$

Bottom Cone: $l^2 = 21^2 + 40^2$

$l = \sqrt{2041}$

$$SA = LA_{\text{top cone}} + LA_{\text{cyl}} + LA_{\text{Bottom cone}}$$
$$= \frac{1}{2}C \cdot l + C \cdot h + \frac{1}{2}C \cdot l$$
$$= \frac{1}{2}2\pi r l + 2\pi r h + \frac{1}{2}2\pi r l$$
$$= \pi(21)(7\sqrt{34}) + 2\pi(21)(35) + \pi(21)\sqrt{2041}$$
$$= 147\pi\sqrt{34} + 1470\pi + 21\pi\sqrt{2041} \text{ cm}^2$$

$$V = V_{\text{topcone}} + V_{\text{cyl}} + V_{\text{bottom cone}}$$
$$= \frac{1}{3}Bh + Bh + \frac{1}{3}Bh$$
$$= \frac{1}{3}\pi r^2 \cdot h + \pi r^2 h + \frac{1}{3}\pi r^2 h$$
$$= \frac{1}{3}\pi(21)^2(35) + \pi(21)^2(35) + \frac{1}{3}\pi(21)^2(40)$$
$$= 5145\pi + 15435\pi + 5880\pi$$
$$= 26\,460\pi \text{ cm}^3$$



Slant height

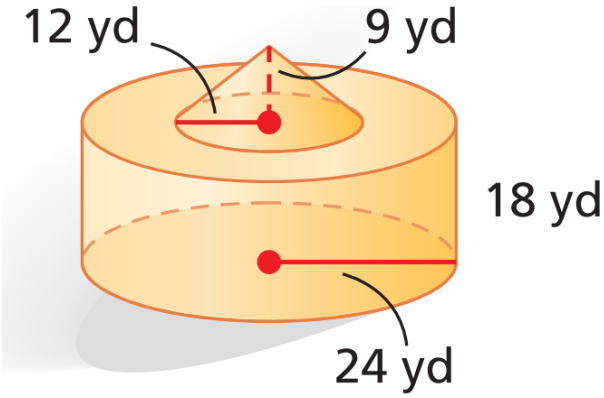
$l^2 = 2^2 + 4^2$

$= 4 + 16$

$l = \sqrt{20} = 2\sqrt{5}$

$$SA = SA_{\text{cube}} - A_{\text{circle}} + LA_{\text{cone}}$$
$$= (2B + Ph) - \pi r^2 + \frac{1}{2}Cl$$
$$= (2(4^2) + 16(4)) - \pi(2)^2 + \frac{1}{2}(2\pi(2)) \cdot 2\sqrt{5}$$
$$= 32 + 64 - 4\pi + 4\pi\sqrt{5}$$
$$= 96 - 4\pi + 4\pi\sqrt{5} \text{ ft}^2$$

$$V = V_{\text{cube}} - V_{\text{cone}}$$
$$= Bh - \frac{1}{3}Bh$$
$$= 4^2 \cdot 4 - \frac{1}{3}\pi(2)^2 \cdot 4$$
$$= 64 - \frac{16}{3}\pi \text{ ft}^3$$



Slant height

$\ell^2 = 12^2 + 9^2$

$\ell^2 = 225$

$\ell = 15$

$SA = LA_{cone} + SA_{cyl} - A_{cone\ base}$

$= \frac{1}{2}C\ell + (2B + Ch) - \pi r^2$

$= \frac{1}{2}(2\pi 12)15 + (2(\pi 24^2) +$

$+ 2\pi(24)18 - \pi(12)^2$

$= 180\pi + 1152\pi + 864\pi - 144\pi$

$= 2052\pi \text{ yd}^2$