

### 3.33 Frustum of a Right Circular Cone

Radius of bases:  $R, r$

Height:  $H$

Slant height:  $m$

Scale factor:  $k$

Area of bases:  $S_1, S_2$

Lateral surface area:  $S_L$

Total surface area:  $S$

Volume:  $V$

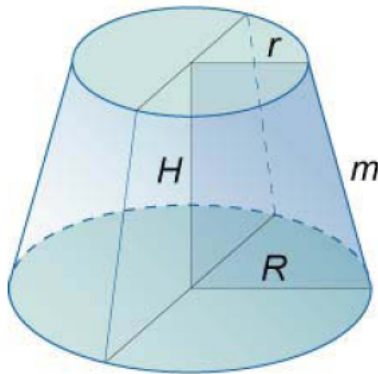


Figure 50.

$$333. \quad H = \sqrt{m^2 - (R - r)^2}$$

$$334. \quad \frac{R}{r} = k$$

$$335. \quad \frac{S_2}{S_1} = \frac{R^2}{r^2} = k^2$$

$$336. \quad S_L = \pi m(R+r)$$

$$337. \quad S = S_1 + S_2 + S_L = \pi[R^2 + r^2 + m(R+r)]$$

$$338. \quad V = \frac{h}{3}(S_1 + \sqrt{S_1 S_2} + S_2)$$

$$339. \quad V = \frac{hS_1}{3} \left[ 1 + \frac{R}{r} + \left( \frac{R}{r} \right)^2 \right] = \frac{hS_1}{3} [1 + k + k^2]$$