## 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

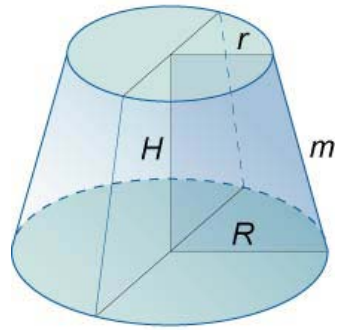


**Figure 50.**

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

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

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

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

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

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

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