

Formula Sheet for Math 151, Exam 1

Formulas for a circle: If R is the radius then

$$\begin{aligned}\text{area} &= \pi R^2 \\ \text{length of circumference} &= 2\pi R.\end{aligned}$$

Formulas for a sphere: If R is the radius then

$$\begin{aligned}\text{volume} &= \frac{4}{3}\pi R^3 \\ \text{area} &= 4\pi R^2.\end{aligned}$$

Volume of a pyramid:

$$\frac{1}{3}(\text{area of base})(\text{height}).$$

Formulas for a cone with circular base: If R = radius of base and H = height then

$$\begin{aligned}\text{volume} &= \frac{1}{3}\pi R^2 H \\ \text{lateral area} &= \pi R \sqrt{R^2 + H^2}.\end{aligned}$$

The lateral area does not include the area of the base of the cone.

Formulas for a cylinder with circular base: If R = radius of base and H = height then

$$\begin{aligned}\text{volume} &= \pi R^2 H \\ \text{lateral area} &= 2\pi R H.\end{aligned}$$

The lateral area does not include the areas of the two circular ends of the cylinder.
