Calc 1 — Some Standard Formula's

Areas

$$\begin{aligned}
\text{circle} \quad & A = \pi r^2 \\
\text{rectangle} \quad & A = lw \\
\text{triangle} \quad & A = \frac{1}{2}bh \\
\text{box} \quad & A = 2lw + 2lh + 2wh \\
\text{sphere} \quad & A = 4\pi r^2 \\
\text{cylinder} \quad & A = 2\pi r^2 + 2\pi rh
\end{aligned}$$

Volumes

$$\begin{aligned}
\text{cylinder} \quad & V = \pi r^2 h \\
\text{box} \quad & V = lwh \\
\text{sphere} \quad & V = \frac{4}{3}\pi r^3 \\
\text{cone} \quad & V = \frac{1}{3}\pi r^2 h
\end{aligned}$$

where l - length, w - width, h - height, r- radius and b - base.

Pythagorean Thm.
If x is the base, y the height, and s the hypotenuse of a right angled triangle, then

$$x^2 + y^2 = s^2.$$

If θ is the angle between the adjacent side and hypotenuse, we also have

$$\tan\theta = \frac{y}{x}, \quad \sin\theta = \frac{y}{s}, \quad \cos\theta = \frac{x}{s}$$

Similar triangles
If l_1 and h_1 are the base and height of the small triangle and l_2 and h_2 are the base and height of the large triangle, then

$$\frac{l_1}{h_1} = \frac{l_2}{h_2}$$