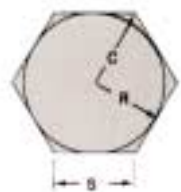







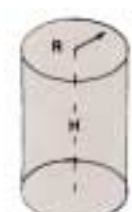
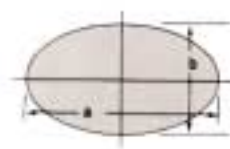
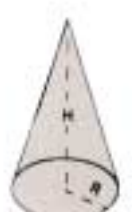




# FORMULAS FOR DETERMINING GEOMETRIC AREAS AND VOLUMES

	 <p><b>Hexagon</b></p> <p><math>C = S = 1.155R</math>  <math>\text{Area} = 2.598S^2</math>  <math>= 3.464R^2</math></p>
 <p><b>Circle</b></p> <p><math>A = \text{area}</math> <math>C = \text{circumference.}</math>  <math>A = \pi r^2 = \frac{\pi d^2}{4}</math>  <math>C = 2\pi r = \pi D</math></p>	 <p><b>Circular Sector</b></p> <p><math>A = \text{area}</math>; <math>l = \text{length of arc}</math>;  <math>\alpha = \text{angle, in degrees.}</math>  <math>l = \frac{r \times \alpha \times 3.1416}{180}</math>  <math>A = \frac{1}{2} rl</math>  <math>\alpha = \frac{57.296 l}{r}</math></p>
 <p><b>Parallelogram</b></p> <p><math>A = \text{area.}</math>  <math>A = ab</math></p> <p>Note that dimension <math>a</math> is measured at right angles to line <math>b</math>.</p>	 <p><b>Regular Polygon</b></p> <p><math>A = \text{area}</math> <math>n = \text{number of sides.}</math>  <math>\alpha = 360^\circ \div n</math> <math>\beta = 180^\circ - \alpha</math>  <math>A = \frac{nsr}{2} = \frac{ns}{2} \sqrt{\frac{R^2 - s^2}{4}}</math>  <math>R = \sqrt{r^2 + \frac{s^2}{4}}</math>; <math>r = \sqrt{R^2 - \frac{s^2}{4}}</math>  <math>s = 2\sqrt{R^2 - r^2}</math></p>
 <p><b>Trapezoid</b></p> <p><math>A = \text{area.}</math>  <math>A = \frac{(a + b)h}{2}</math></p>	 <p><b>Circular Ring</b></p> <p><math>A = \text{area}</math>  <math>A = \pi (R^2 - r^2)</math>  <math>= 0.7854 (D^2 - d^2)</math></p>
 <p><b>Rectangle or Square</b></p> <p><math>\text{Area} = L \times W</math></p>	 <p><b>Cylinder</b></p> <p><math>\text{Area} = 2\pi R (R + H)</math>  <math>\text{Volume} = \pi R^2 H</math></p>
 <p><b>Ellipse</b></p> <p><math>a = \text{major axis}</math>; <math>b = \text{minor axis.}</math>  <math>A = \frac{\pi ab}{4}</math></p>	 <p><b>Cone</b></p> <p><math>\text{Area} = \pi R \sqrt{(R^2 + H^2)}</math>  <math>\text{Volume} = \frac{\pi R^2 H}{3}</math></p>
 <p><b>Triangle</b></p> <p><math>A = \text{area.}</math>  <math>A = \frac{bh}{2}</math></p>	 <p><b>Square Prism</b></p> <p><math>V = \text{volume.}</math>  <math>A = \text{area of surface.}</math>  <math>V = abc</math>  <math>A = 2ab + 2ac + 2bc</math></p>