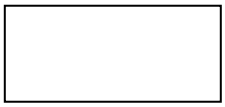
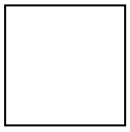
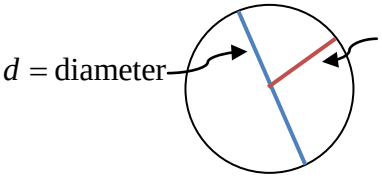
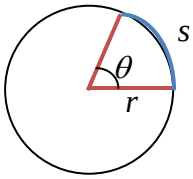
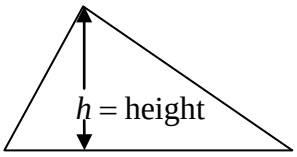
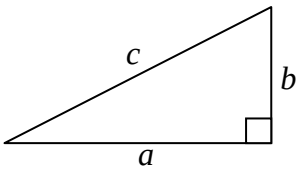
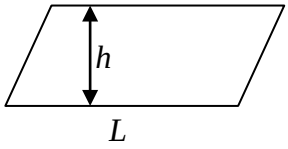
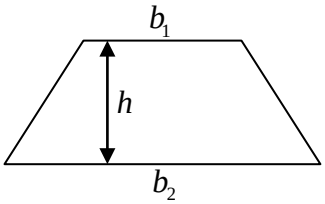
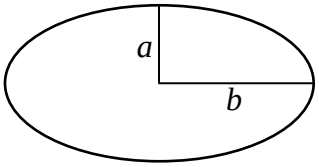
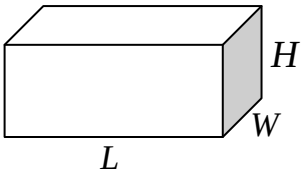
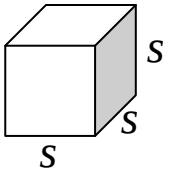
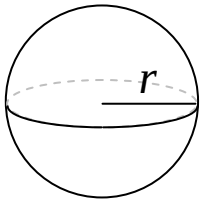
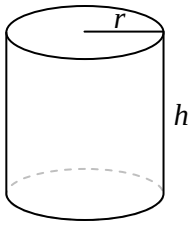
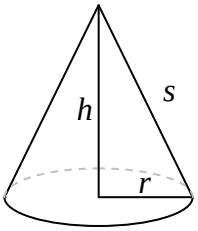
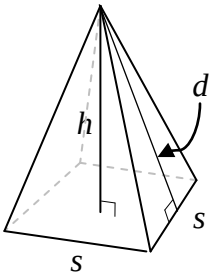
Geometric Formulas

Shape	General Formulas	Picture
Rectangles	Perimeter: $P = 2L + 2W$ Area: $A = L \cdot W$	 W = width L = length
Squares	Perimeter: $P = 4S$ Area: $A = S \cdot S = S^2$	 S = side
Circles	Circumference: $C = 2\pi r = \pi d$ Area: $A = \pi r^2 = \frac{\pi}{4} d^2$ Arc Length: $s = r \cdot \theta$ (θ in radians) Area of Sector: $A_s = \frac{1}{2} r^2 \cdot \theta$ (θ in radians)	 d = diameter r = radius  s θ r
Triangles	Area: $A = \frac{1}{2} b \cdot h$	 h = height b = base
Right Triangles	Side Length Relationship: $c^2 = a^2 + b^2$	 c b a
Parallelograms	Area: $A = L \cdot h$	 h L
Trapezoids	Area: $A = \frac{1}{2}(b_1 + b_2) \cdot h$	 b_1 h b_2
Ellipses	Area: $A = \pi \cdot a \cdot b$	 a b

Shape	General Formulas	Picture
Rectangular Solids (Boxes)	Surface Area (with top and bottom): $SA = 2LW + 2LH + 2WH$ Volume: $V = L \cdot W \cdot H$	
Cubes	Surface Area (with top and bottom): $SA = 6s^2$ Volume: $V = s \cdot s \cdot s = s^3$	
Spheres	Surface Area: $SA = 4\pi r^2$ Volume: $V = \frac{4}{3}\pi r^3$	
Cylinders	Surface Area (with top and bottom): $SA = 2\pi rh + 2\pi r^2$ Volume: $V = \pi r^2 h$	
Cones	Surface Area (with bottom): $SA = \pi rs + \pi r^2$ Volume: $V = \frac{1}{3}\pi r^2 h$	
Pyramids (Square-based)	Surface Area (with bottom): $SA = 2ds + s^2$ Volume: $V = \frac{1}{3}s^2 h$	
Prisms	Surface Area (with top and bottom): $SA = 2B + h \cdot (\text{Perimeter of base})$ Volume: $V = B \cdot h$