

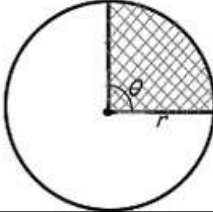
Surface Area and Volume: Cylinder, Cone, Pyramid, Sphere, Prisms

Sector

Area The area of a sector of a circle can be calculated by degrees or radians. ($\frac{\pi}{2}$ radians = 90°)

A: Area
r: radius
 θ : central angle

Formula $\frac{\theta}{2} r^2$ (in radians)
 $\frac{\theta}{360} \pi r^2$ (in degrees)



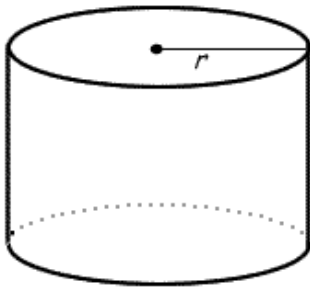
Sector is the shaded area

Cylinder

Surface Area We will need to calculate the surface area of the top, base and sides.

Area of the top is πr^2
Area of the bottom is πr^2
Area of the side is $2\pi r h$

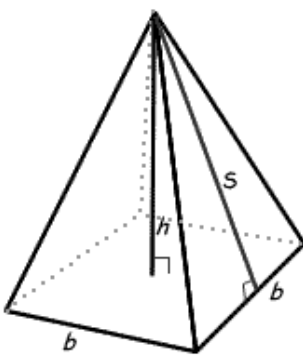
Therefore the Formula is: $A = 2\pi r^2 + 2\pi r h$



Volume $V = \pi r^2 h$

Square Based Pyramid

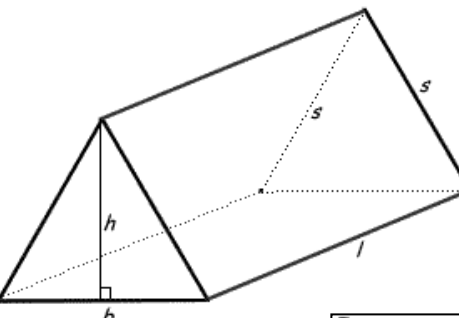
Surface Area $A = 2bs + b^2$



Volume $V = \frac{1}{3} b^2 h$

Isosceles Triangular Prism

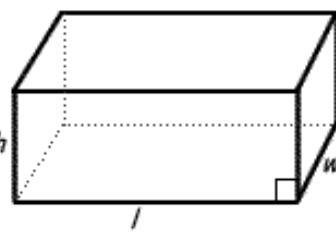
Surface Area $A = bh + 2ls + lb$



Volume $V = \frac{1}{2} (bh) l$

Rectangular Prism

Surface Area $A = 2 (wh + lw + lh)$



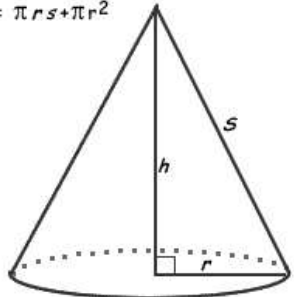
Volume $V = lwh$

Cone

Surface Area We will need to calculate the surface area of the cone and the base.

Area of the cone is $\pi r s$
Area of the base is πr^2

Therefore the Formula is: $SA = \pi r s + \pi r^2$



Volume $V = \frac{1}{3} \pi r^2 h$