

3D GEOMETRY FORMULAS

KEY

s = side length

w = width

r = radius

l = length

h = height

ℓ = slant height

P = perimeter of base

B = area of base

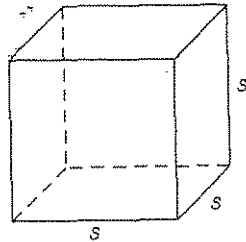
$\pi = 3.14$

CUBE

s = side

Volume: $V = s^3$

Surface Area: $S = 6s^2$



RECTANGULAR PRISM

l = length, w = width,

h = height

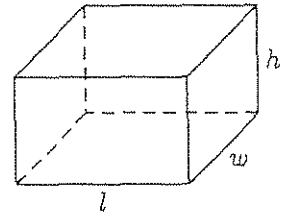
Volume: $V = lwh$

Surface Area:

$S = 2lw + 2lh + 2wh$

or

$S = Ph + 2B$



TRIANGULAR PRISM

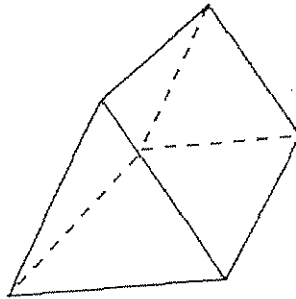
Volume: $V = \frac{1}{2}(lwh)$

Surface Area:

S = find area of each face
(then add up)

or

$S = Ph + 2B$

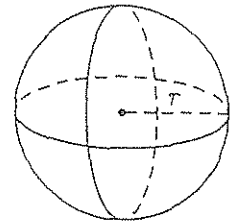


SPHERE

r = radius

Volume: $V = \frac{4}{3}\pi r^3$

Surface Area: $S = 4\pi r^2$

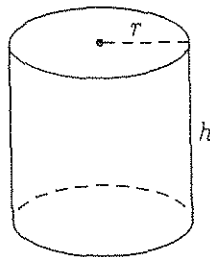


CYLINDER

r = radius, h = height

Volume: $V = \pi r^2 h$

Surface Area: $S = 2\pi r h + 2\pi r^2$



CONE

r = radius, h = height

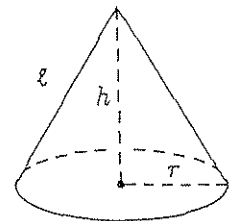
Volume: $V = \frac{1}{3}\pi r^2 h$

Surface Area:

$S = \pi r(\ell + r)$

or

$S = \pi r\sqrt{r^2 + h^2} + \pi r^2$



PYRAMID

s = side, h = height

Volume: $V = \frac{1}{3}lwh$

Surface Area:

$S = s(s + \sqrt{s^2 + 4h^2})$

or

$S = B + \frac{1}{2}P\ell$

