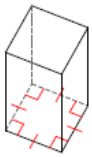
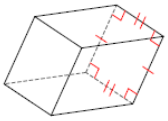
Notes Unit 8

8.1 Surface area of Prisms and Cylinders

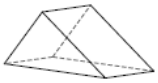


square prism

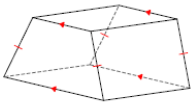


rectangular prism

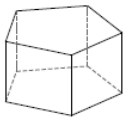
Names of Prisms:



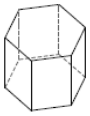
triangular prism



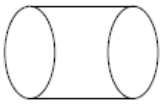
trapezoidal prism



pentagonal prism

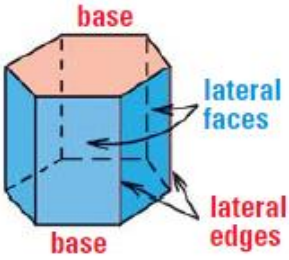


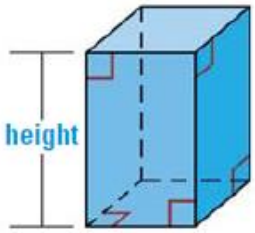
hexagonal prism



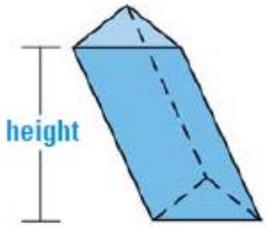
cylinder

Surface area of a right prism:



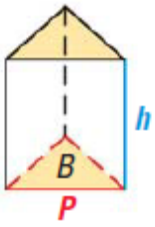


Right rectangular prism



Oblique triangular prism

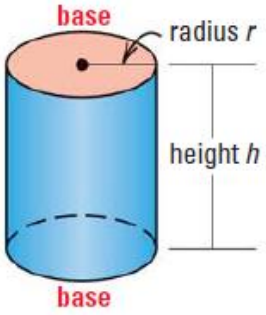
Formula's: S = 2B + Ph or S = aP + Ph

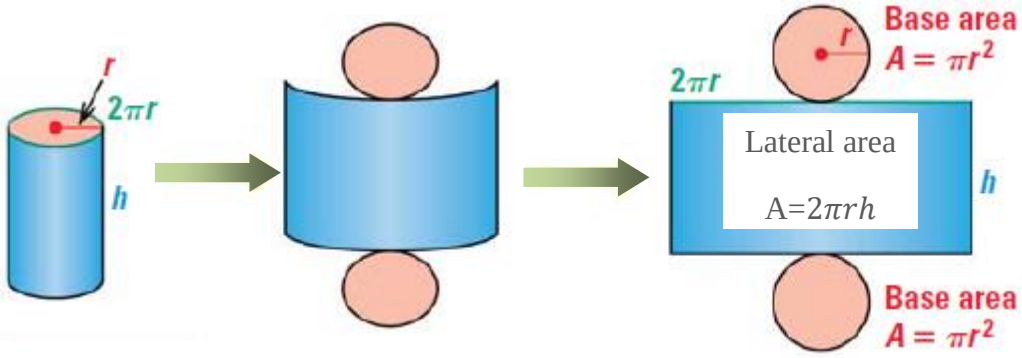


a = length of apothem of base S = surface area

P = perimeter of base h = height of prism B = base area

Surface area a cylinder:

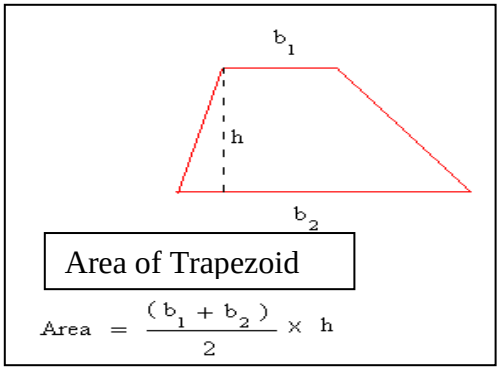




Formula's: S = 2B + Ch or $S = 2\pi r^2 + 2\pi rh$

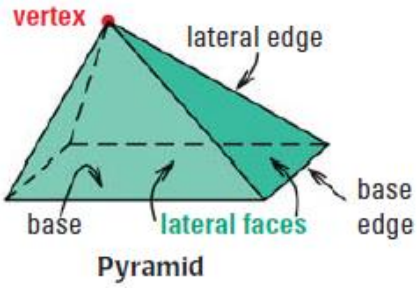
C = circumference of base S = surface area B = base area

r = radius of base h = height of prism

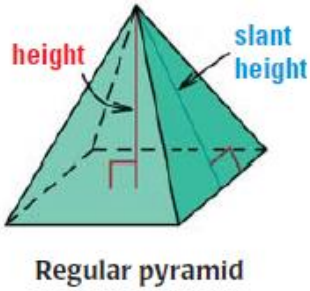


8.2 Surface area of Pyramids and Cones

Surface area of a regular pyramid:



Pyramid



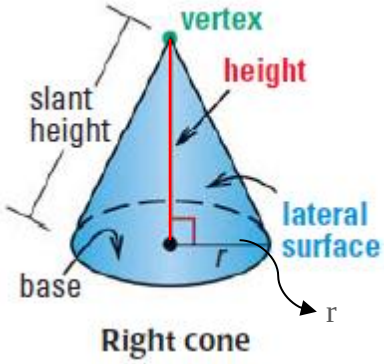
Regular pyramid

Formula's: $S = B + \frac{1}{2}P\ell$

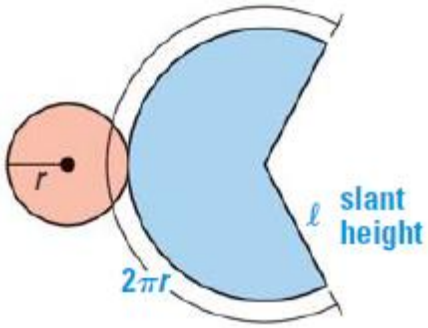
S = surface area B = base area

P = perimeter of base ℓ = slant height

Surface area of a right cone:



Right cone

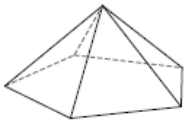


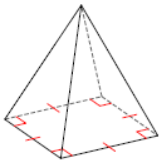
Formula's: $S = B + \frac{1}{2}C\ell$ or $S = \pi r^2 + \pi r\ell$

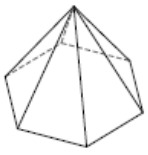
S = surface area B = base area r = radius of base

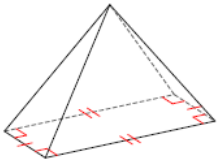
C = circumference ℓ = slant height

Names of Pyramids:


pentagonal pyramid


square pyramid

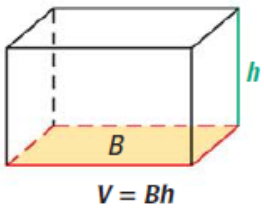

hexagonal pyramid


rectangular pyramid


cone

8.3 Volume of Prisms and Cylinders

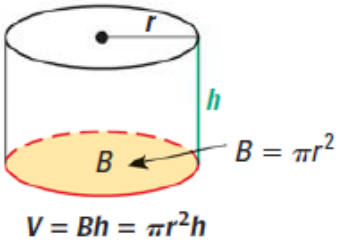
Volume of a prism:



Formula's: $V = Bh$

V = volume
B = base area
h = height

Volume of a cylinder:

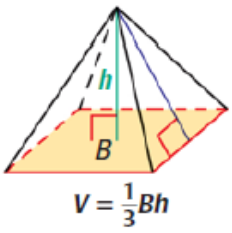


Formula's: $V = Bh$ or $V = \pi r^2 h$

V = volume
B = base area
h = height
r = radius of base

8.4 Volume of Pyramids and Cones

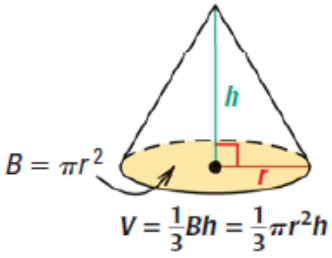
Volume of a pyramid:



Formula's: $V = \frac{1}{3}Bh$

V = volume
B = base area
h = height

Volume of a cone:



Formula's: $V = \frac{1}{3}Bh$ or $V = \frac{1}{3}\pi r^2 h$

V = volume
B = base area
h = height
r = radius of base

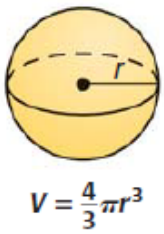
8.5 Surface area and Volume of Spheres

Surface area of a sphere:

Formula's: $S = 4\pi r^2$

S = surface area
r = radius of sphere

Volume of a sphere:



Formula's: $V = \frac{4}{3}\pi r^3$

V = volume
r = radius of sphere