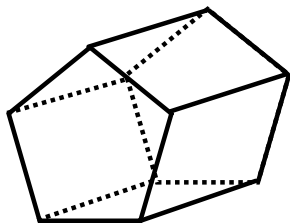
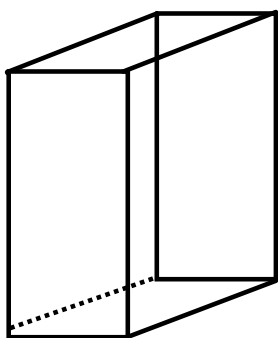


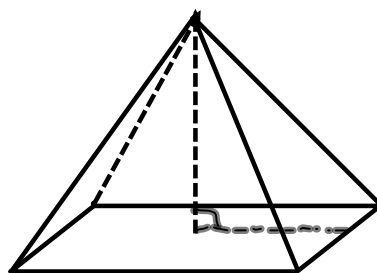
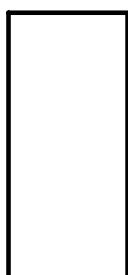
Drawing 3 Dimensional Shapes



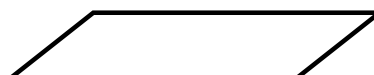
To draw a 3D shape, start with one of the faces first, and then use it to guide the addition of other lines.



Rectangular Prism



Square based Pyramid



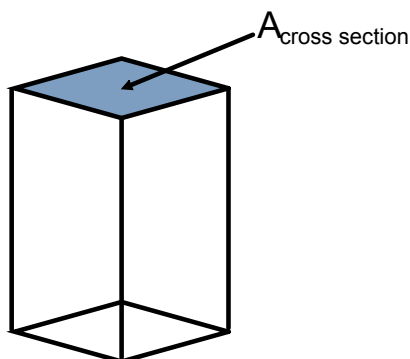
Volume of 3 Dimensional Shapes

A PRISM is a 3-D figure with two, parallel, congruent, polygonal bases.

Prisms are named for their base shape, ie rectangular prism, triangular prism.

ack!!!!

A PRISM has the same cross sectional shape along its entire length, ie. a rubics cube, a shoe box, a soup can.

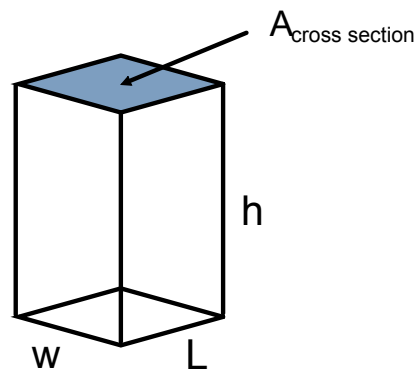


The volume of any prism is given by the following:

Rectangular Prism

$$\text{Volume} = (A_{\text{cross section}}) \times (\text{Length})$$

Volume =

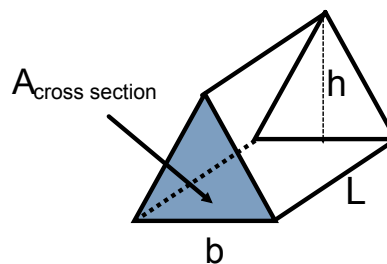


The volume of a triangular prism is given by the following:

Triangular Prism

$$\text{Volume} = (A_{\text{cross section}}) \times (\text{Length})$$

Volume =

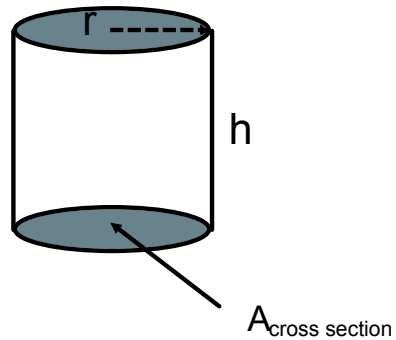


The volume of a prism is given by the following:

Circular Prism (aka cylinder)

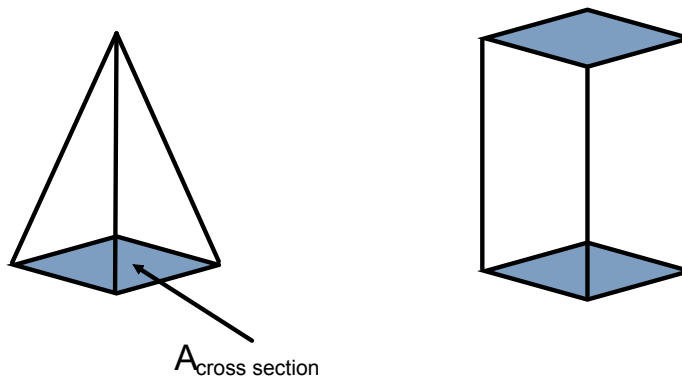
$$\text{Volume} = (A_{\text{cross section}}) \times (\text{Length})$$

Volume =



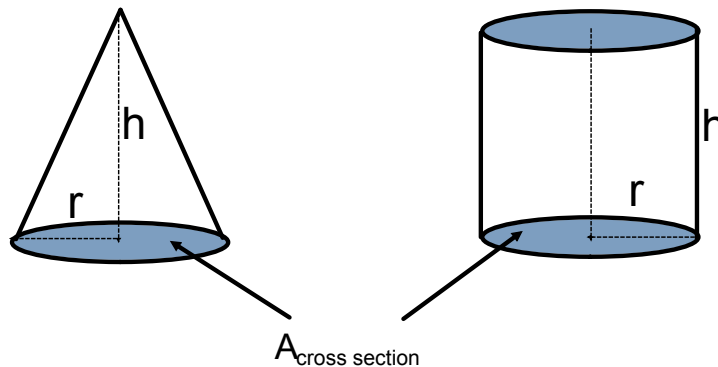
The volume of a right pyramid is given by the following:

$$\text{Volume} = \frac{1}{3} (A_{\text{cross section}}) \times (\text{Length})$$



The volume of a right pyramid is given by the following:

$$\text{Volume} = \frac{1}{3} (A_{\text{cross section}}) \times (\text{Length})$$



Find the volume of a can of soup that has a diameter of 12cm and a height of 22cm.

A cardboard box has a volume of 8 ft^3 .
What might the dimensions of the box be?
Include a diagram.

Consolidation Questions:

Grade 9 Academic - page 454-6 #2,3

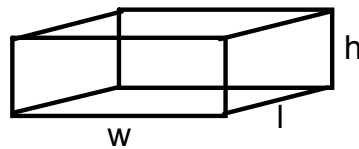
Surface Area

Rectangular Prism

(surface area - the area of all the sides)

$SA =$

Diagram



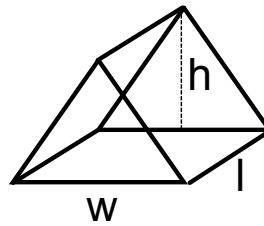
Net

Triangular Prism

(surface area - the area of all the sides)

SA =

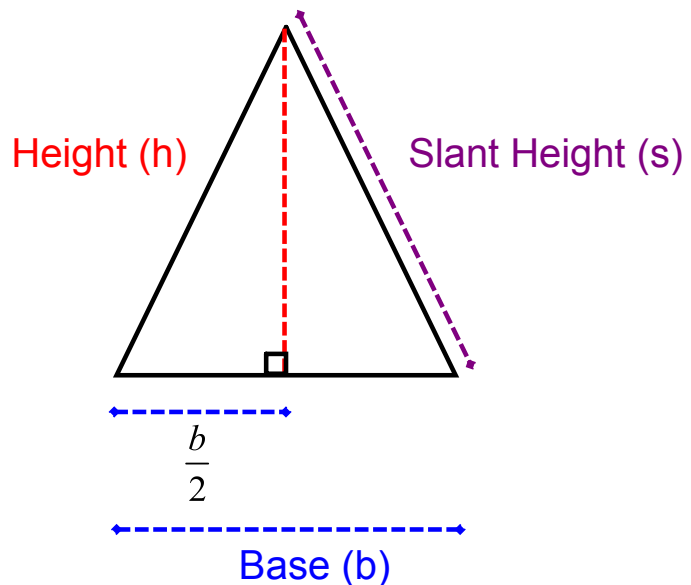
Diagram



Net

SLANT Height is the length measurement of the side that is NOT perpendicular to the base. The side that is "leaning" is the slant height.

Slant height, the base, and the height can all be related together with the Pythagorean Theorem.

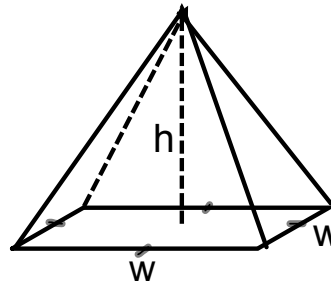


Square Based Pyramid

(surface area - the area of all the sides)

SA =

Diagram

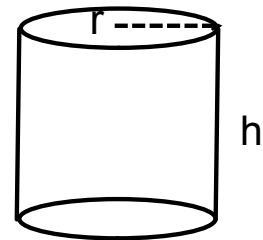
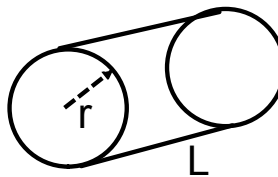


Net

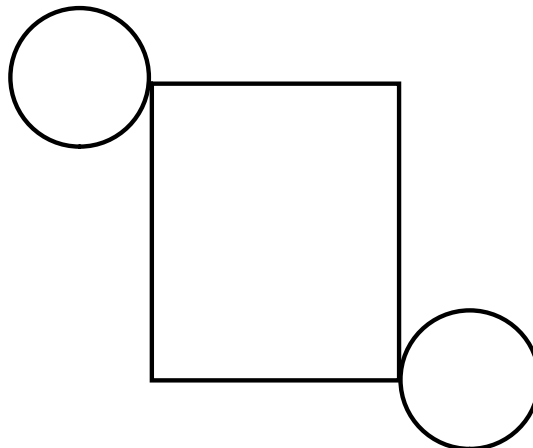
Circle Prism (cylinder)

SA =

Diagram

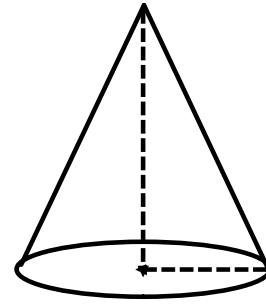


Net



Circle Based Pyramid (Cone)

Diagram

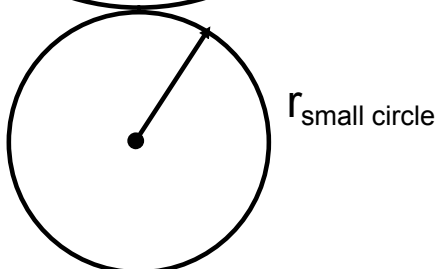
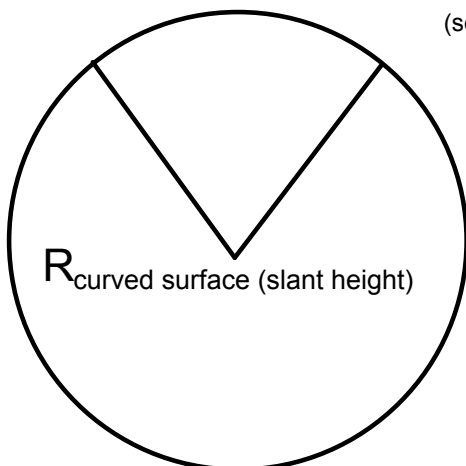


SA =

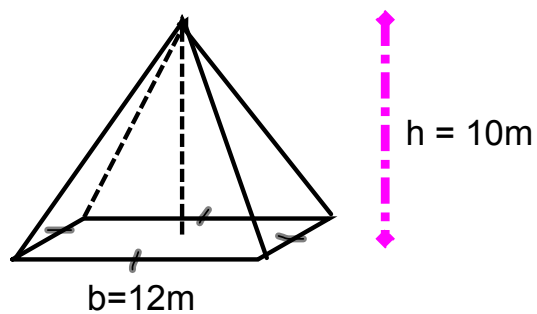
Net - see next slide

Area of Curved Surface = Circumference of Cone
 Area of small circle Circumference of small circle

(see page 453 Nelson if time is short)



Determine the Surface Area and Volume of the following:



Consolidation Questions:

Grade 9 Academic - page 464-65 #2,3,7

The volume of a sphere is given by the following:

$$\text{Volume} = \frac{2}{3} (A_{\text{cross section}}) \times (\text{Length})$$

