12.1

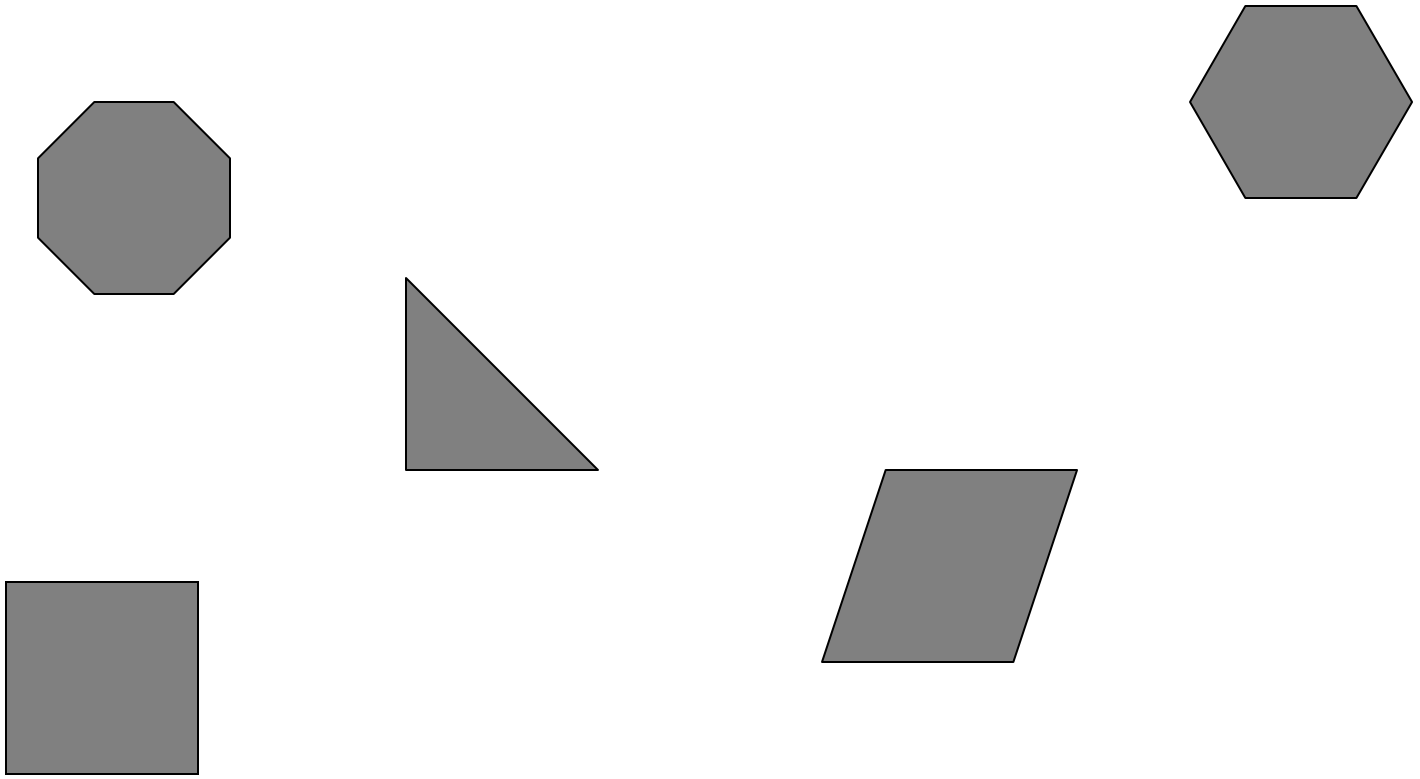
Prisms

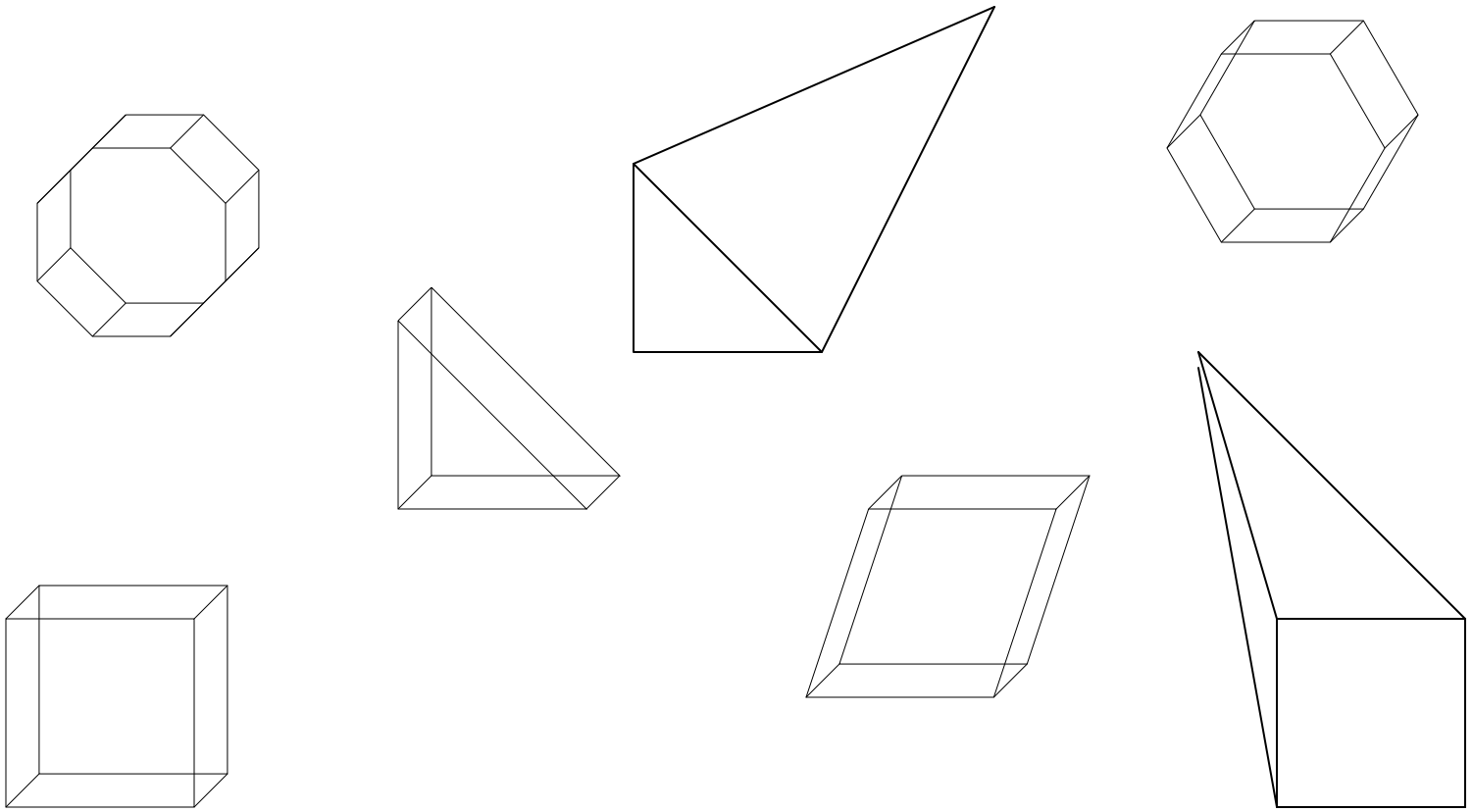
Prisms are specific kinds of

_____

The word polyhedra is the plural form of polyhedron.

A poly***gon*** is a 2-dimensional shape.





Lets talk about specifics of a Prism.

Prism: _____

_____

Altitude: _____

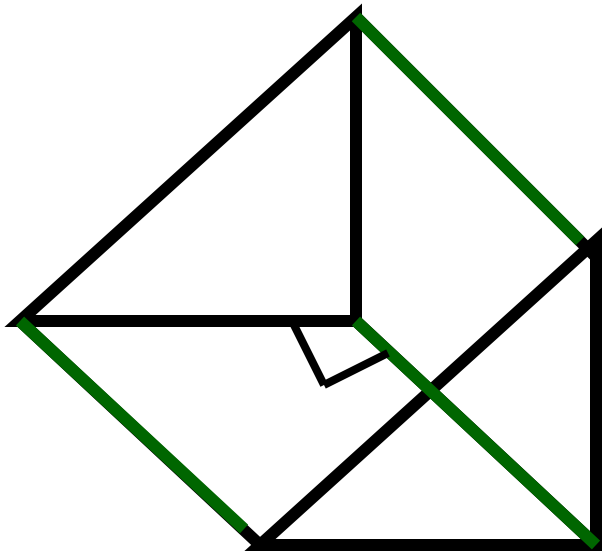
_____

Lateral Faces: _____

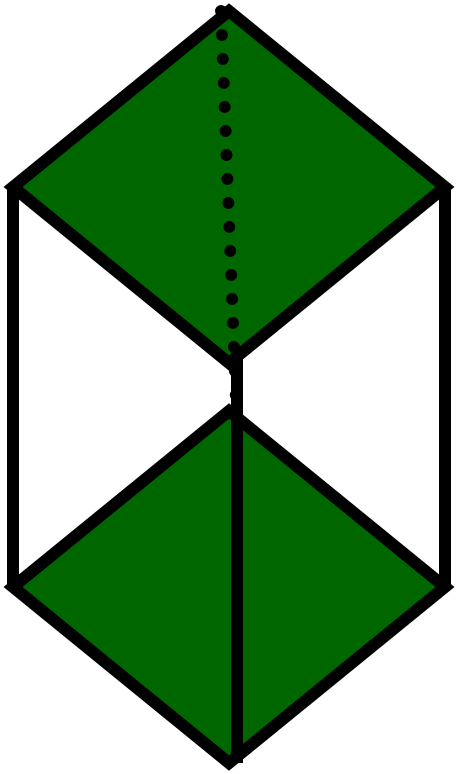
Lateral Edges: _____

_____

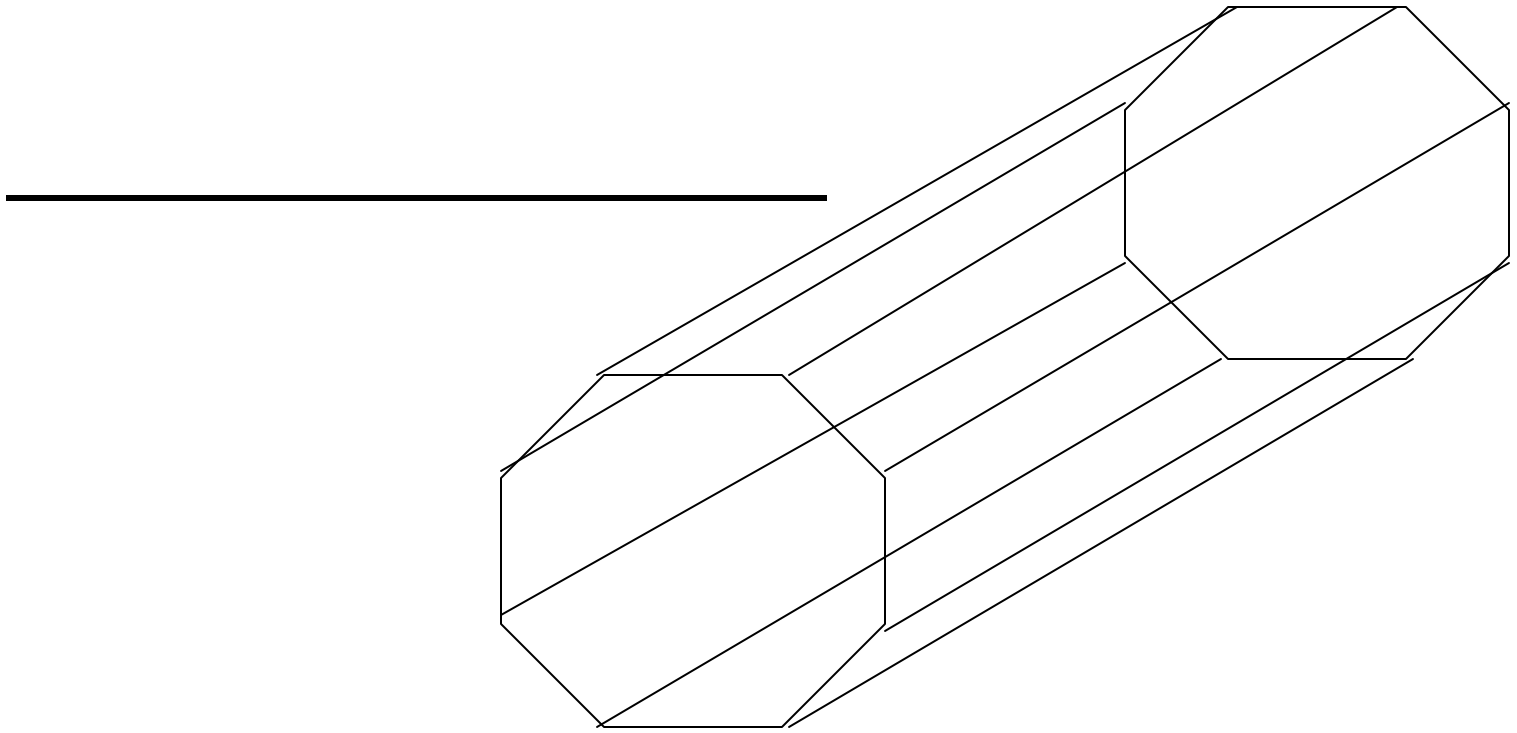
Presto! A triangular prism!



Presto! A Rectangular Prism!

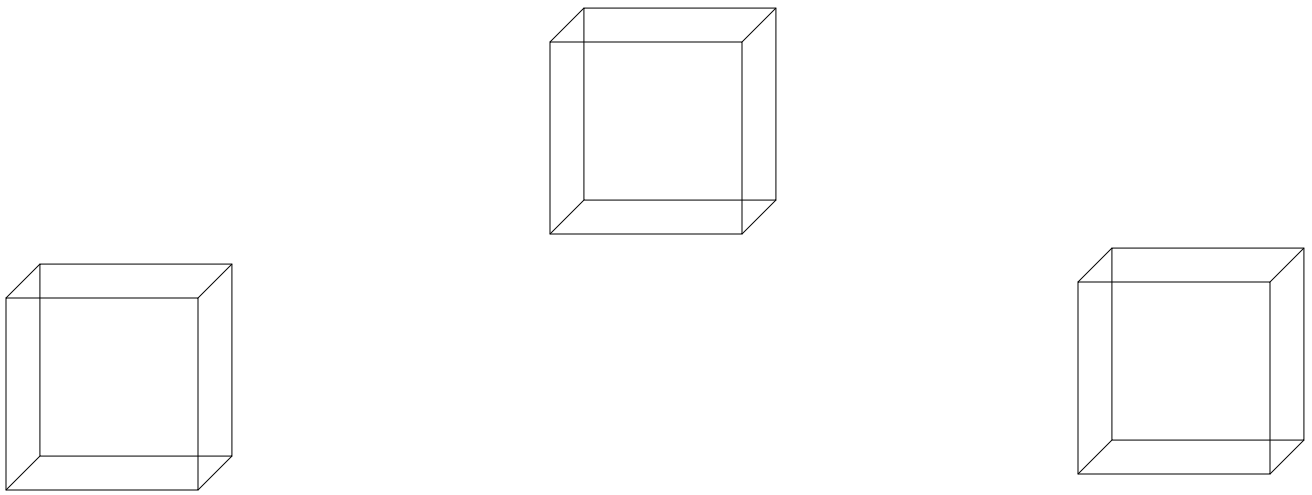


So what did we learn about Naming?

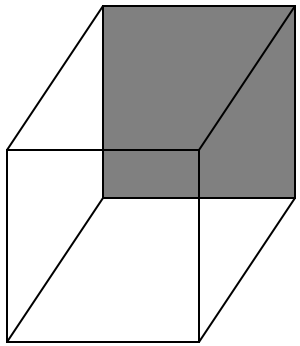


Formulas:

The only unique name that you have to remember is the “cube.”

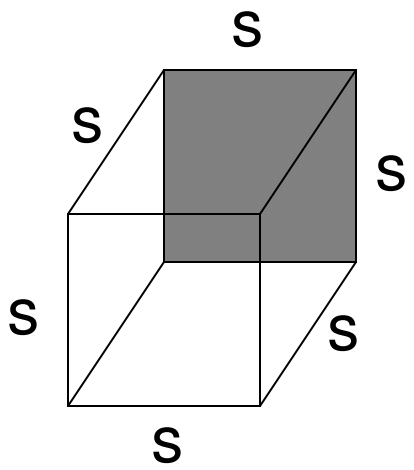


A rectangular _____

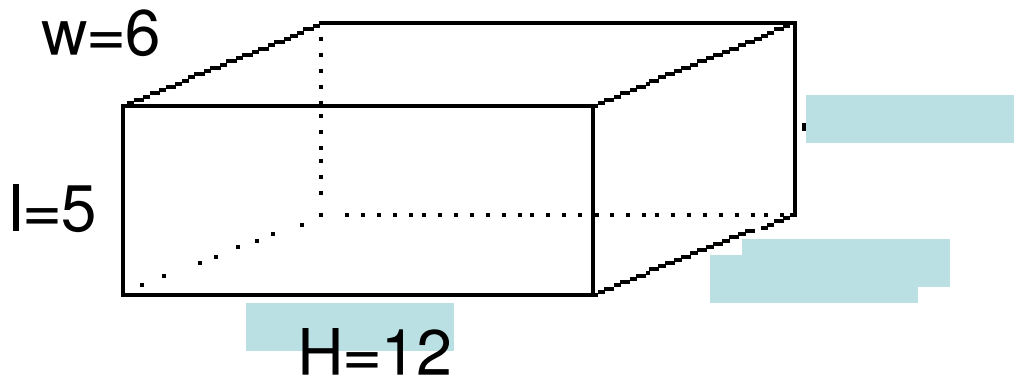


A cube has a volume of 8cm cubed.

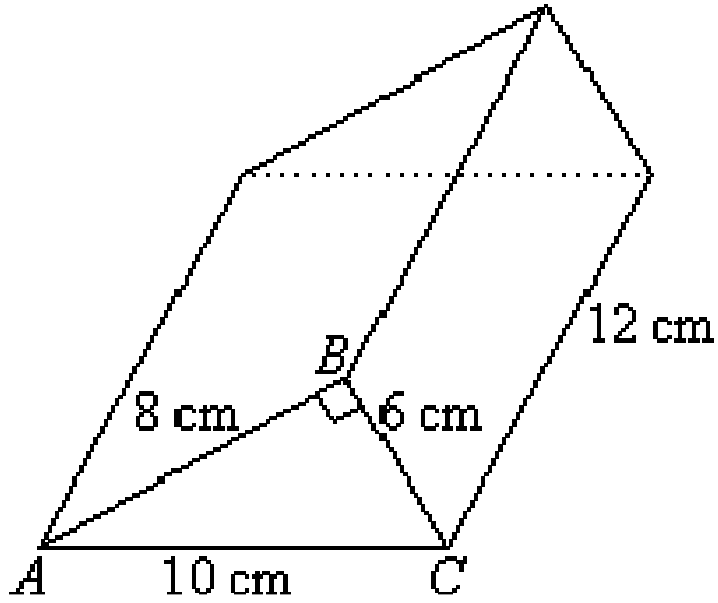
Find the length of each edge and the TA.



Find TA and Volume:



Find TA and Volume:



Find the volume of a rectangular solid with length of 10, width 3 and height of 12.

Find the TA and Volume of a cube with an edge of 5a.

Class work:

1. A right triangular prism has base edges of 5,12,13 and Volume of 450. Find the height of the prism.

2. The base of a Triangular prism is an isosceles triangle with legs of 3 cm. The height of the prism is 10 cm. Find the LA, TA and V.

12.2

Pyramids

Pyramid: _____

Altitude: _____

_____

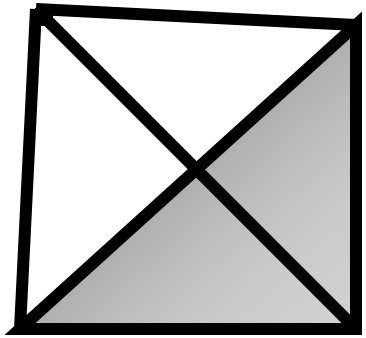
Lateral Faces: _____

Bases: _____

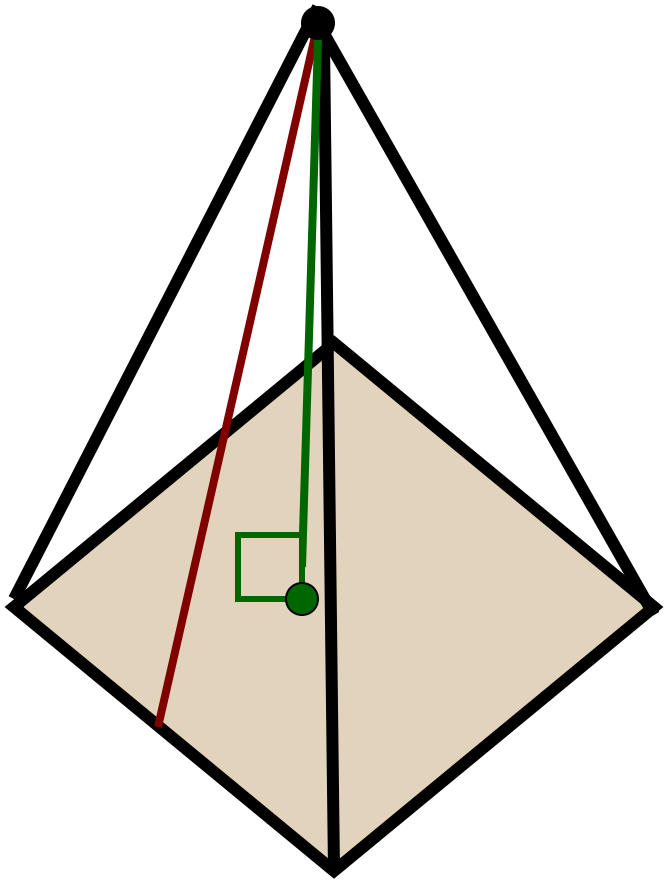
Slant Height: _____

_____

Presto! A triangular pyramid!



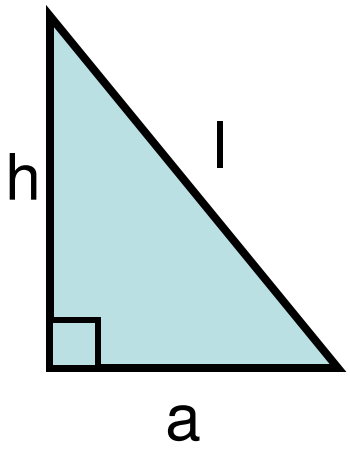
Presto! A square pyramid!

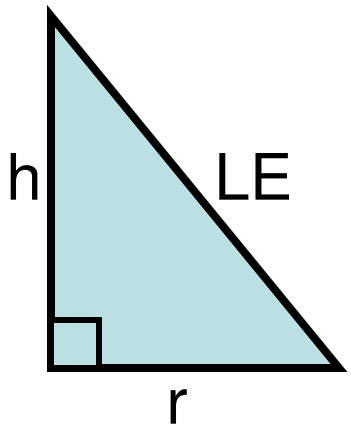


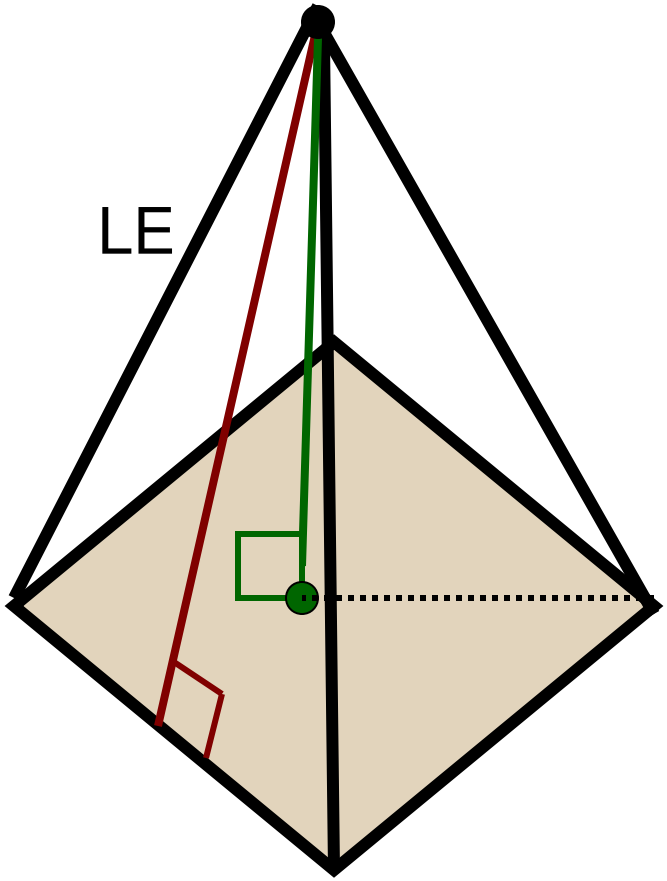
Formulas:

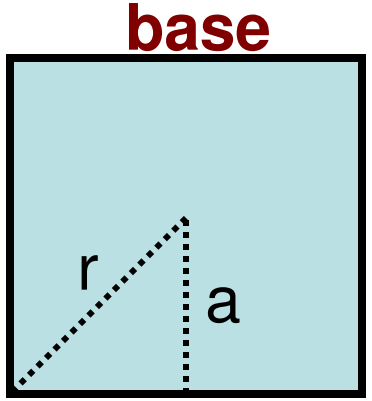
A regular triangular Pyramid has slant height of 9, and base perimeter of 12. Find LA, B, TA.

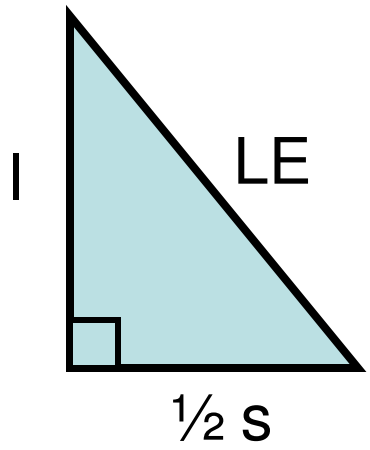
A square pyramid has a base edge of 6 and a lateral edge of 5. Fill in missing values.







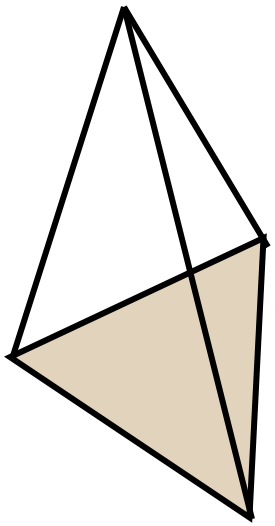




Find LA, BA, TA, and V of the last Problem:

Solve both Problems:

a	h	l	BE	LE	LA	TA	V
3	**4**						
5		**13**					



Regular
Triangular
Pyramid

12.3

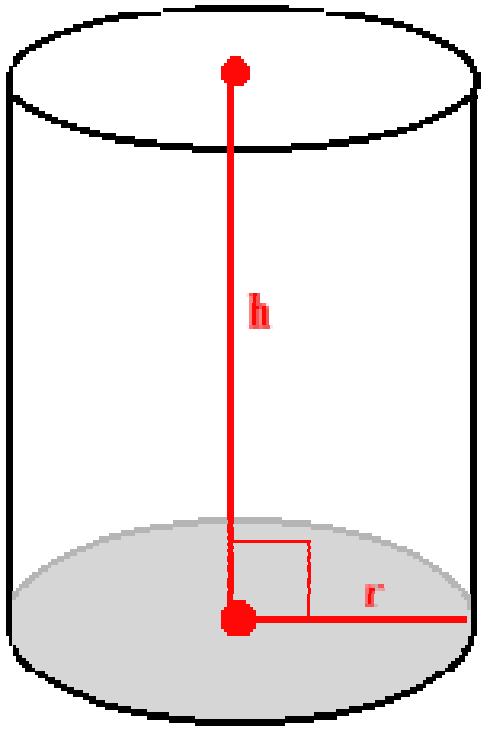
Cylinders and Cones

Cylinders:

Cylinder: _____

height / altitude: _____

Radius: _____



Lateral Area = _____

_____

Total Area = _____

_____

Volume = _____

_____

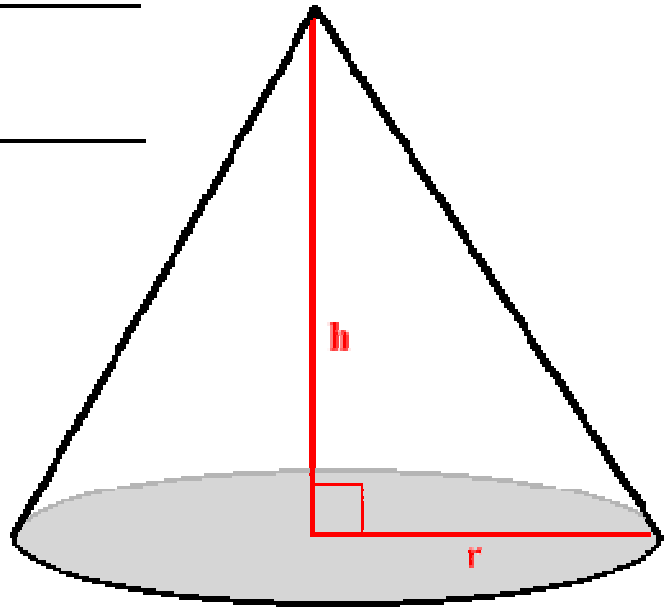
Cones:

Cone: _____

height / altitude: _____

Slant height: _____

Radius: _____



Lateral Area = _____

_____

Total Area = _____

_____

Volume = _____

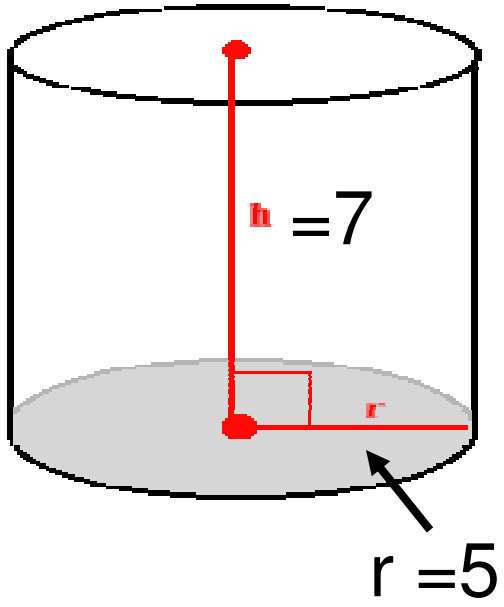
Find:

B =

LA=

TA=

V=



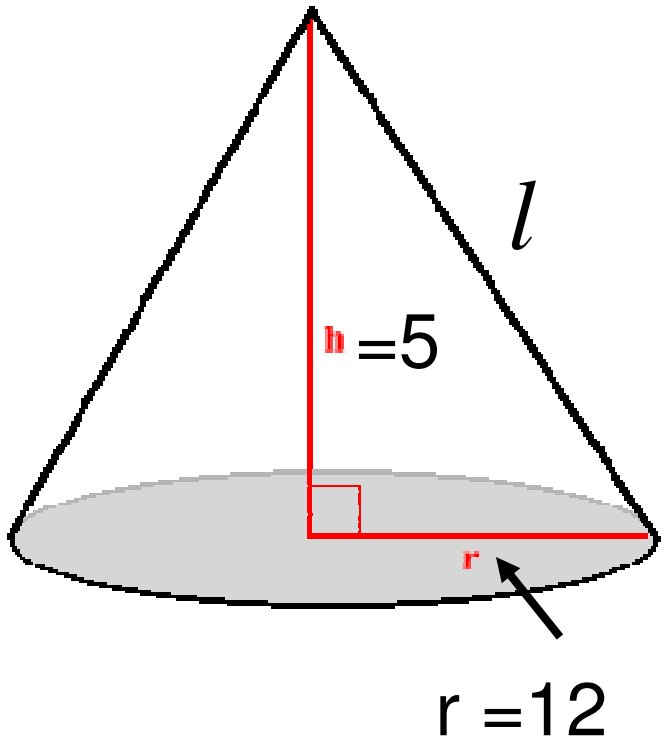
Find:

B =

LA=

TA=

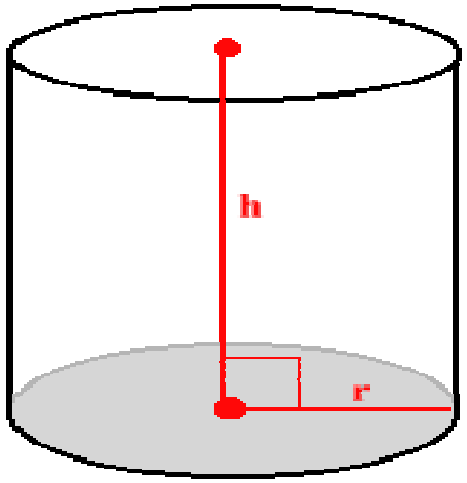
V=



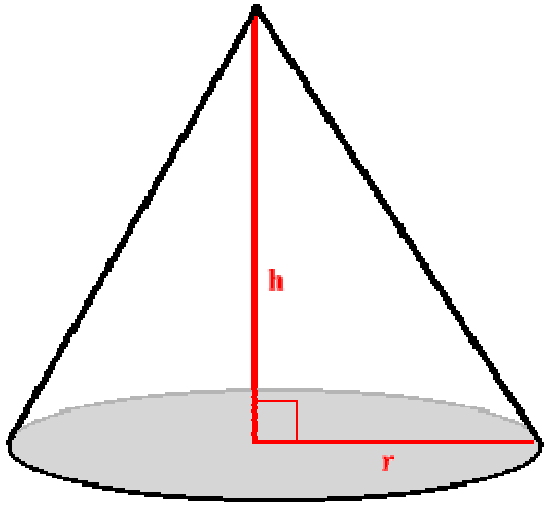
A cone with a radius of 6 and height of 12 cm is filled to capacity with Cherry Coke. Find the minimum height of a cylinder with a radius of 4 cm that will hold the same amount of liquid.

Class work:

r	h	LA	TA	V
5	**10**			
$\sqrt{7}$	**3**			
	12			192π



r	h	l	LA	TA	V
5	12				
8		15			
$\sqrt{2}$					$6\sqrt{2}$



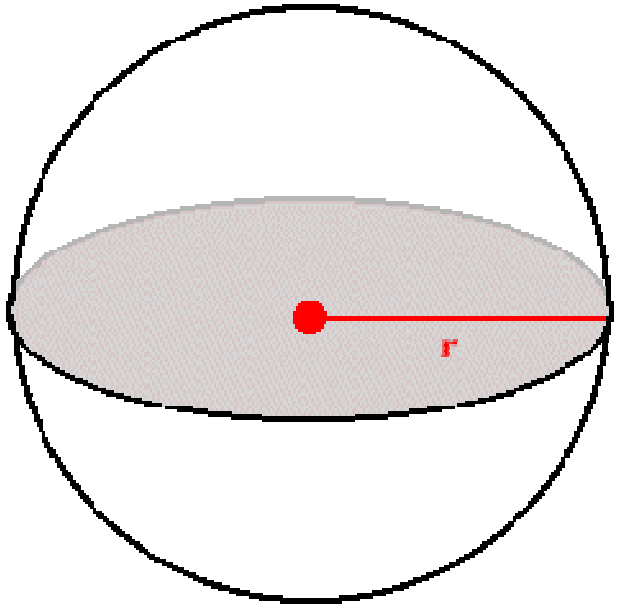
12.4

Spheres

Sphere: _____

_____

_____

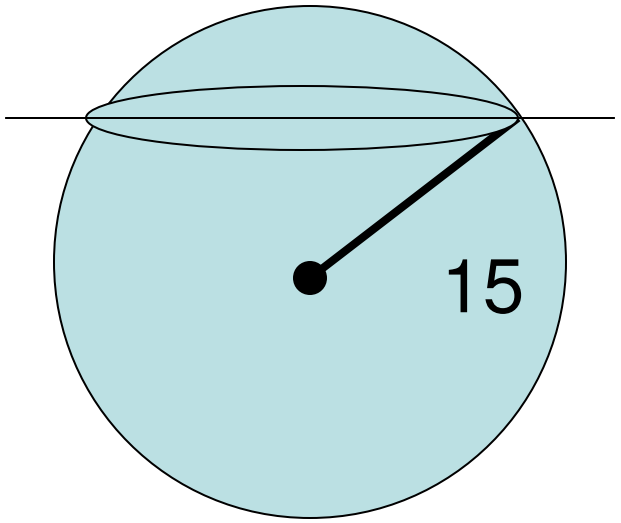


Complete the Chart:

d	r	A	V
12			
	7		
			$\frac{64\pi}{3}$
		12π	
	r		

If the surface area of a sphere is 16 pie find the diameter and the volume.

Find the area of the circle formed when a plane passes 9 cm from the center of a sphere with a radius of 15.



Mr. Trem made 2 wax candles, one in the shape of a sphere with radius of 5 and one in the shape of a cylinder with a radius 5 and height of 6. Which candle required more wax?