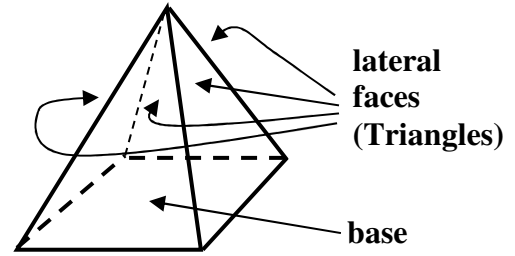


Section 11.3 – Surface Area of Pyramids and Cones

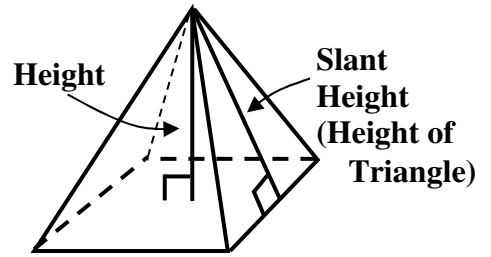
A \_\_\_\_\_ is a polyhedron with \_\_\_ base and lateral faces that are all \_\_\_\_\_.

Name: \_\_\_\_\_  
 \_\_\_\_\_



The perpendicular distance from the top point of the pyramid straight down to the bottom is the \_\_\_\_\_, \_\_\_\_\_.

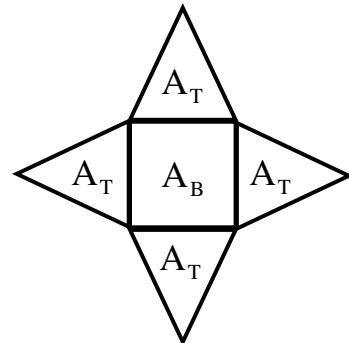
The perpendicular distance from the top point of the pyramid to the edge of the base is the \_\_\_\_\_, \_\_\_\_\_.



**Important:** The slant height is the height of the triangle (lateral face).

**Note:** In this lesson, the base of a pyramid will always be a square (regular polygon) and all the lateral faces will always be congruent triangles.

Square Pyramid Net



**Surface Area of a Pyramid**

$$S = A_B + \underbrace{N_T A_T}_{\text{Lateral Area}}$$

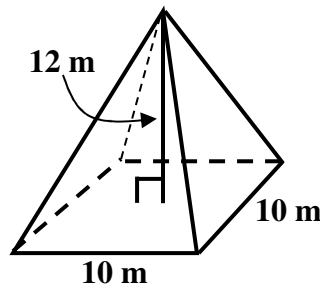
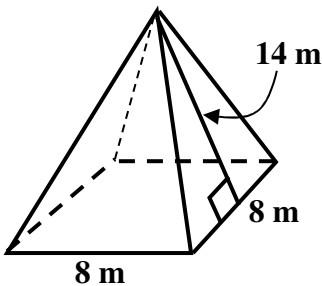
Area of Base    # of triangles    Area of Triangle

Ex 1:

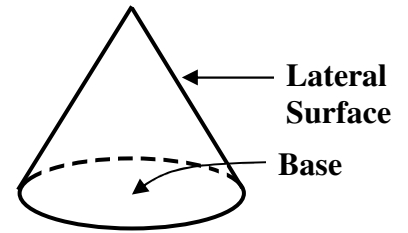
**Important:** Make sure not to confuse the pyramid height with its slant height.

a) Find the lateral area of the pyramid.

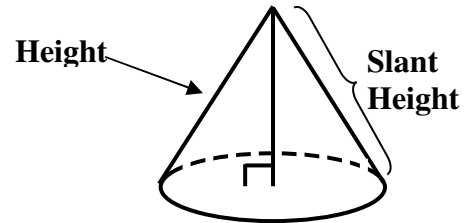
b) Find the surface area of the regular pyramid.



A \_\_\_\_\_ has a base that is a \_\_\_\_\_ and the area around it is called the \_\_\_\_\_ area.



The perpendicular distance from the top point of the cone straight down to the bottom is the \_\_\_\_\_, \_\_\_\_\_. The distance from the top point of the cone to the edge of the base is the \_\_\_\_\_, \_\_\_\_\_.

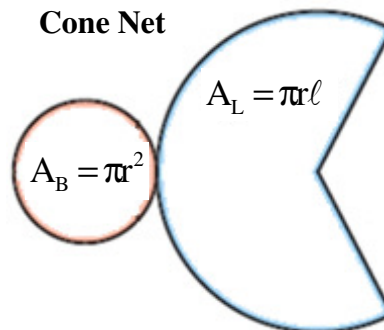


**Surface Area of a Cone**

$$S = \pi r^2 + \pi r \ell$$

↙
↙

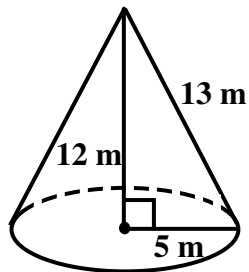
Area of Base (Circle)
Lateral Area



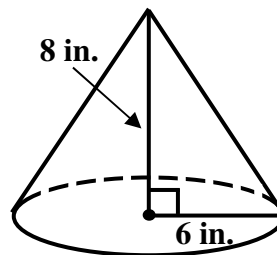
**Ex 2:**

**Important:** Make sure not to confuse the cone height with its slant height.

a) Find the lateral area of the cone.



b) Find the surface area of the cone.



**Ex 3:**

Find the surface area of the figure. **Big Idea:** The surface area is the sum of all the faces you can see. You have to exclude the base of the pyramid and the top base of the cube when calculating the surface area.

