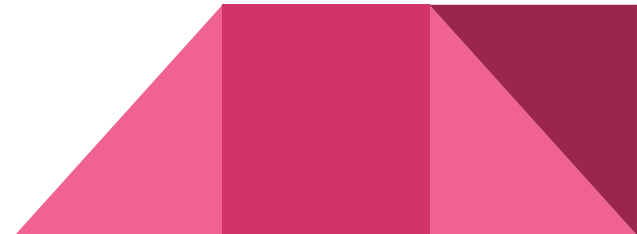
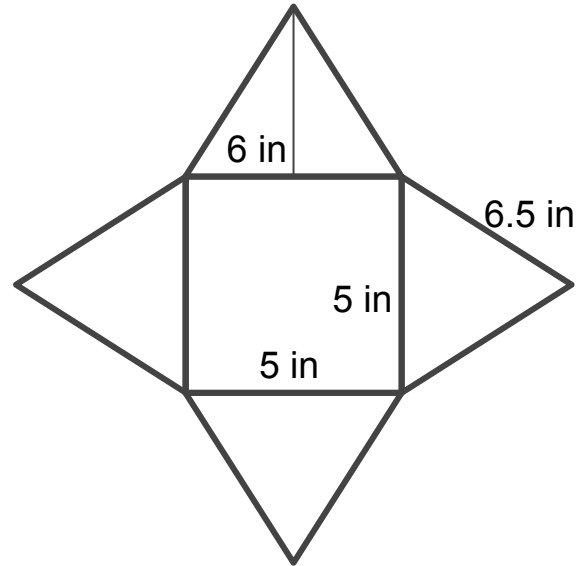
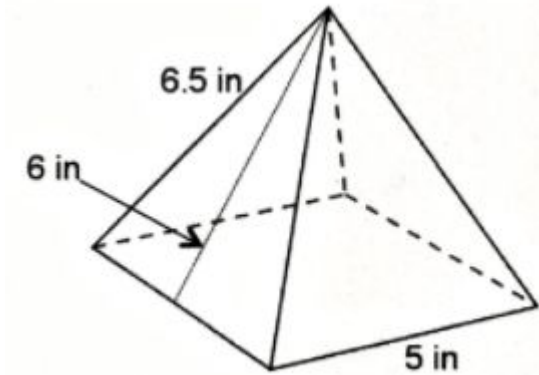


# Surface Area

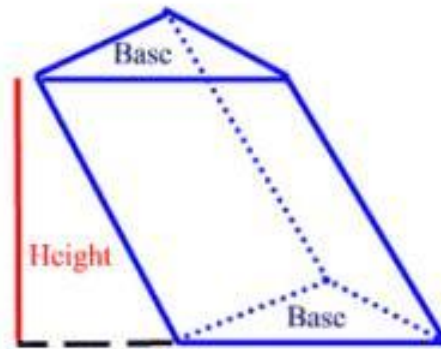
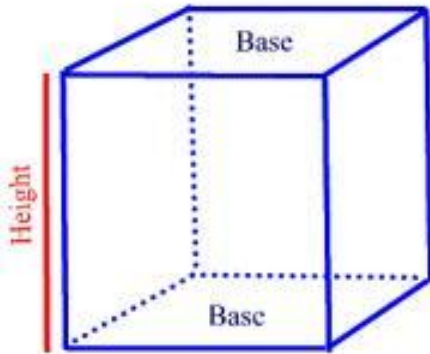
Surface area is the sum of the areas of each of the faces that make up a solid.

We can use *nets* of solid shapes to find the area of each of the faces.



## The height of prisms:

Always the perpendicular distance between each of the bases.

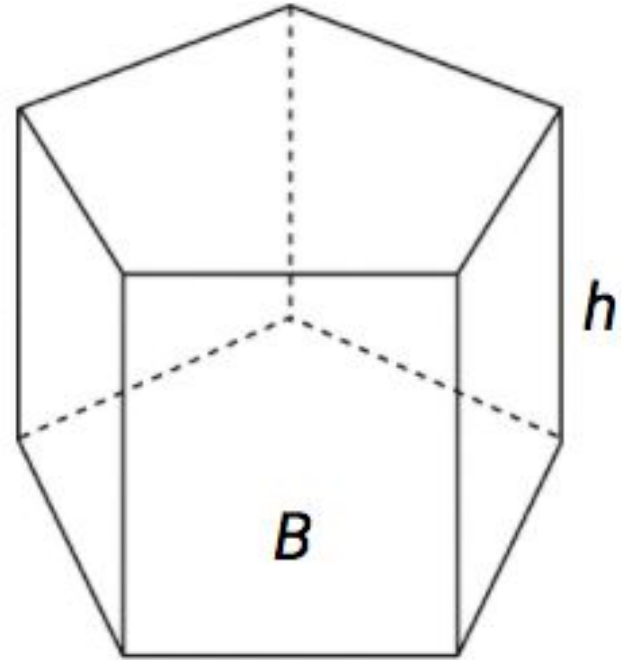


## Surface area of a right prism:

A right prism is when each of the lateral edges are perpendicular to both bases.

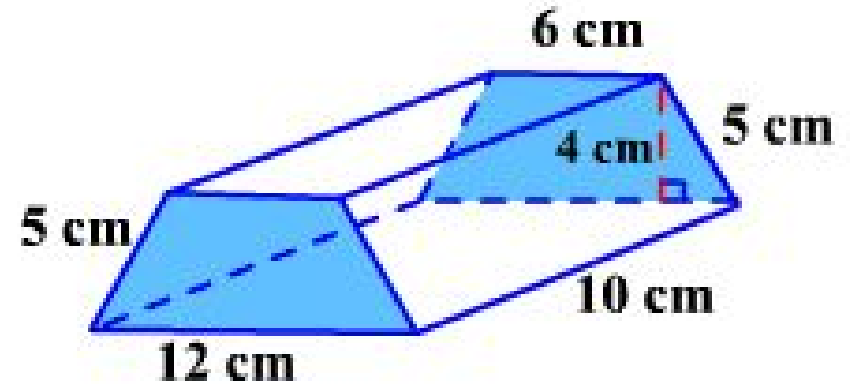
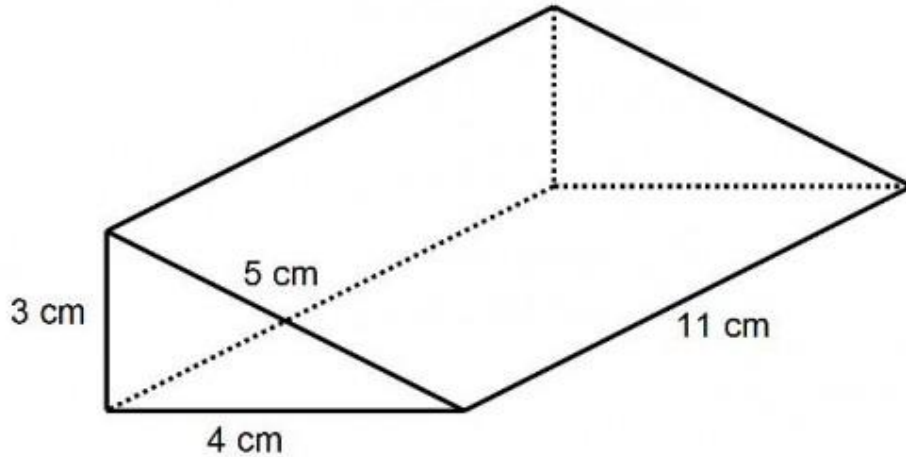
You can find the surface area of a right prism by adding the areas of the bases and the areas of the lateral faces.

The area lateral faces will be the perimeter of the base times the height ( $Ph$ ).



$$S = 2B + Ph$$

Find the surface areas of these right prisms:



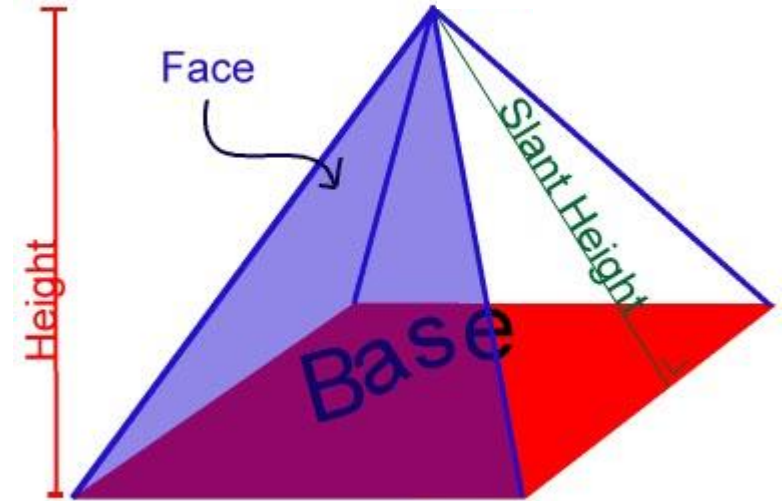
## The surface area of a *regular* pyramid:

The sum of the base area ( $B$ ) and the lateral area.

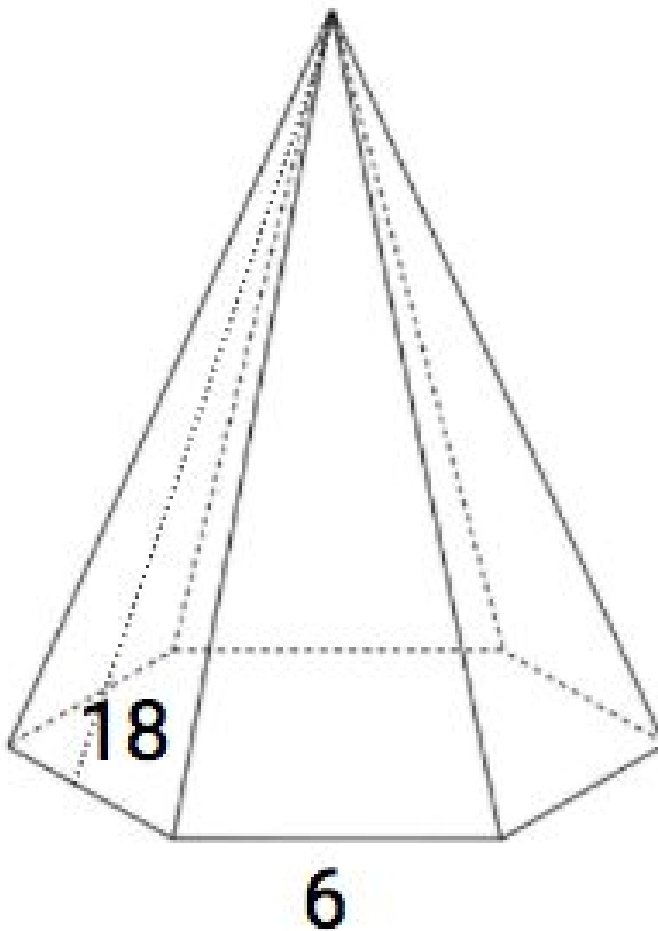
The lateral area is going to be the perimeter of the base ( $P$ ) times the slant height ( $h$ ), times  $\frac{1}{2}$ .

So we have:

$$S = B + \frac{1}{2}Ph$$



Find the surface area of this regular hexagonal pyramid.



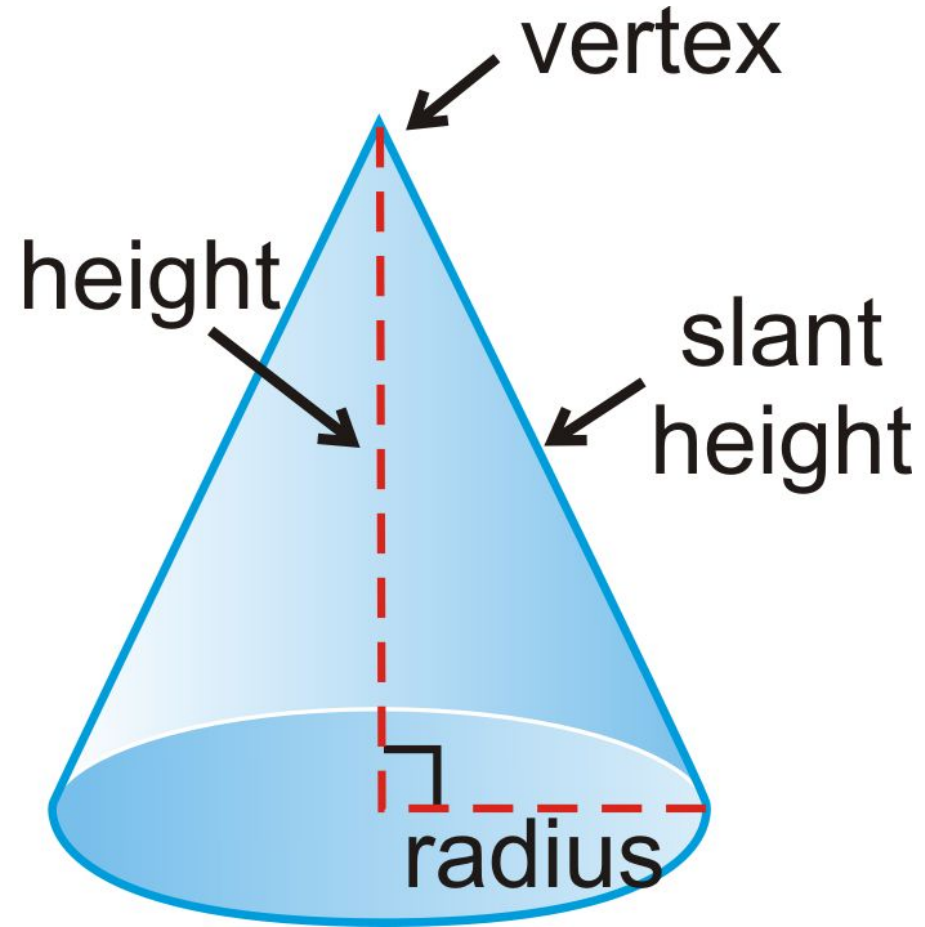
## Surface Area of a Cone

The surface area of a cone is the sum of the base ( $B$ ) and its lateral area.

The lateral area will be  $\frac{1}{2}$  times the circumference ( $C$ ) times the slant height ( $h$ ).

So we have

$$S = B + \frac{1}{2}Ch$$



What is the surface area of this cone?

