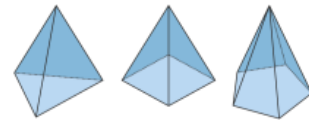


Chapter 1 Measurement

↳ Sec 1.4 to 1.7

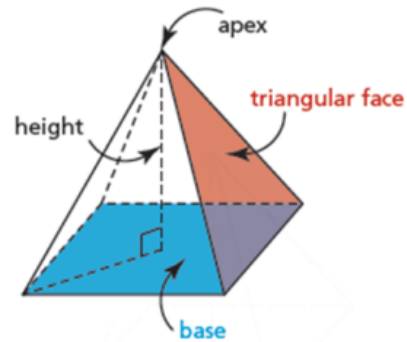
↳ Sec 1.1 to 1.3



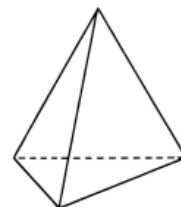
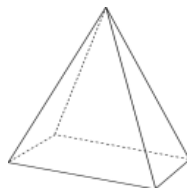
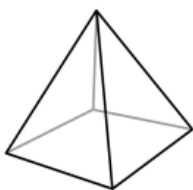
Sec 1.4 Surface Area of Right Pyramids and Right Cones

A right pyramid is a 3-dimensional object that has a triangular faces and a base that is a polygon.

The triangular faces meet at a point called the **apex**.



A right pyramid gets its name from the shape of its base.



Sometimes sketching the nets of each pyramid is helpful.

Note: There are two heights to consider in a right pyramid.

- The **height** of the pyramid is the perpendicular distance from the apex to the center of the base.
- The **slant height** is the height of the triangular face.

Recall from Grade 9:

Surface Area

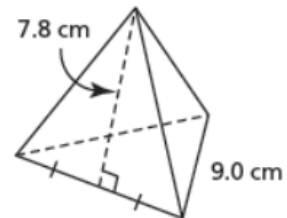
- ↳ the total area of the surface of the object.
- ↳ find the area of each face and add them together.
- ↳ Area of a square or rectangle = $L \times W$ Area of triangle = $\frac{bh}{2}$

Lateral Area

- ↳ the total area of the triangular faces of the pyramid. It does not include the base.

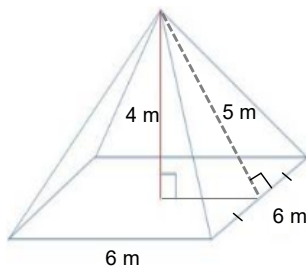
Example 1

Determine the surface area of the regular tetrahedron to the nearest cm^2 .



Example 2

Determine the lateral area of the right square pyramid to the nearest cm^2 .

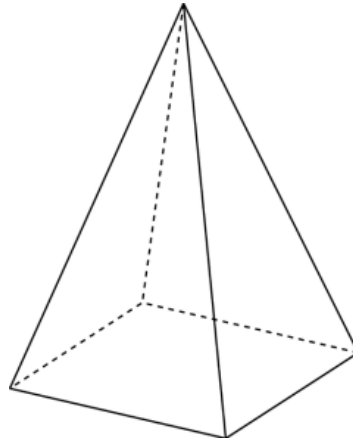


Think about this...

What if the slant height of 5 m was not given in the square pyramid?
Can you still find surface area?

Example 3

A right rectangular pyramid has base dimensions 8 ft by 10 ft and a height of 16 ft. Calculate the surface area of the pyramid to the nearest square foot.



Work Book Questions

p.34 #5ab, 13ab

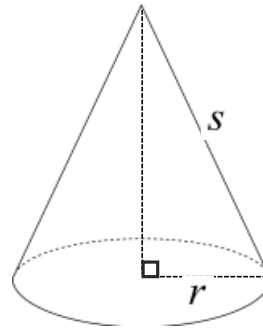
Extra Practice Questions

p.34 #8a, 10, 18

Surface Area of a Cone

↳ also called a right cone with a slant height s and a base radius r is:

$$SA = \pi r s + \pi r^2$$



A cone consists of two parts. The lateral area and a circle. Sketch the net of the cone.

Example 4

A right cone has a base radius of 2 ft. and a height of 7 ft. Calculate the surface area of this cone to the nearest square foot.

Example 5

The surface area of a right cone is 125in^2 and its radius is 4.7in . What is the slant height of the cone?

Example 6

The lateral area of a cone is 220cm^2 . The diameter of the cone is 10cm . Determine the slant height of the cone to the nearest tenth of a centimeter.

Work Book Questions

p.34 #4a, 6a, 7a, 12, 16ab, 21

Extra Practice Questions

p.34 #4b, 6b, 7b, 15