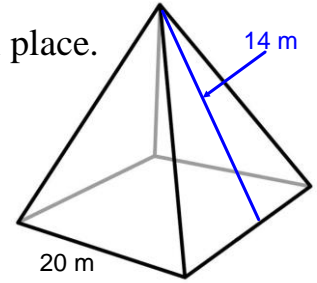


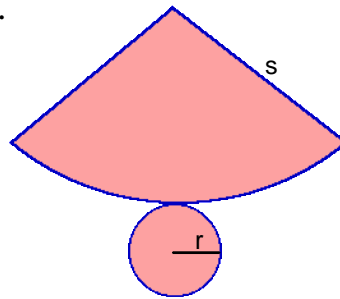
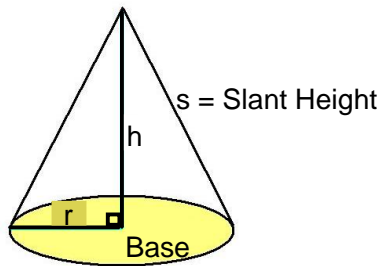
Warm Up:

Calculate the surface area of the square-base pyramid below to 1 decimal place.



SURFACE AREA OF CONES

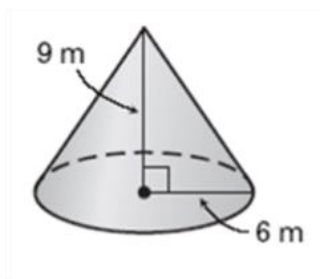
A cone is a three dimensional solid with a circular base. The lateral surface is curved and extends from the base to a point called the vertex.



$$\text{Total Surface Area of Cone} = A_{\text{base}} + A_{\text{lateral side}}$$

The vertical height, h , of a cone is the distance between the vertex and the center of the circular base. The slant height, s , is the height from the vertex to the edge of the circular base.

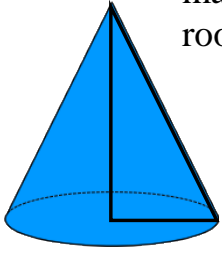
Example 1: Calculate the surface area of the cone below.



Example 2: Calculate the surface area of a waffle cone (before it is filled with ice cream) with height 4.2 cm and radius 1.8cm.

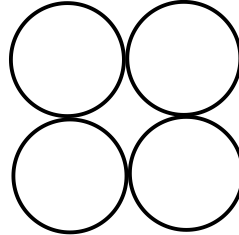
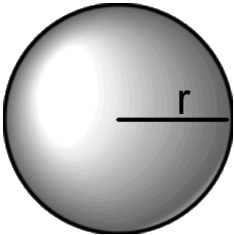


Example 3: A cone-shaped roof has a diameter of 12 ft. and a slant height of 8 ft. If roofing material comes in 80 square-foot rolls, how many rolls will be needed to cover this roof?



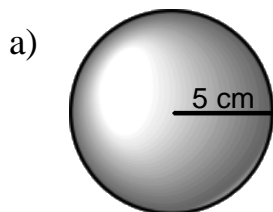
SURFACE AREA OF CONES

A sphere is a round ball-shaped three dimensional solid. Every point on the surface of the sphere is the same distance from the centre of the sphere.



Surface Area of a sphere =

Example 1: Find the surface area of the following spheres.



b) The earth is approximately a sphere. It's diameter is approx. 12730 km. If water covers about 70% of its surface, how many square km of land covers the Earth?