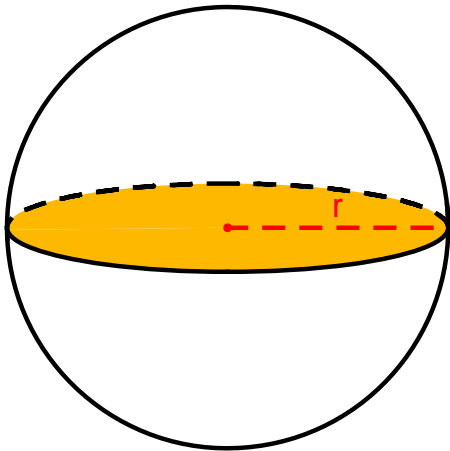


Worksheet 10.3: Spheres

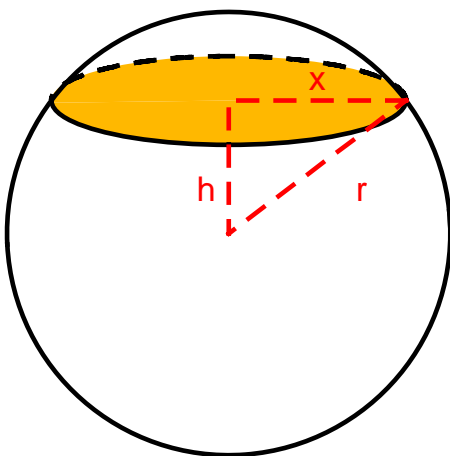
Complete the table for the sphere shown below.



1. 2. 3. 4. 5. 6.

Radius	4	$\frac{1}{2}$	$\sqrt{3}$			
Area					324π	
Volume						144π

A plane passes through a sphere h units from the center. The radius of the sphere is r . Find the area of the circle of intersection, shaded in the diagram below, for the given values of r and h .



7. $r = 5, h = 3$

8. $r = 17, h = 8$

9. $r = 8, h = 4$

-
10. If you double the radius of a sphere, how are the area and the volume effected?
11. If you triple the radius of a sphere, how are the area and volume effected?
12. A silo of a barn consists of a cylinder capped by a hemisphere. The diameter of the cylinder is 12 m and the height of the cylinder is 16 m. Draw the silo below and find its volume.
13. If three cans of paint are needed to cover the hemispherical dome of the silo in #12, approximately how many cans of paint are need to paint the rest of the silo's exterior?