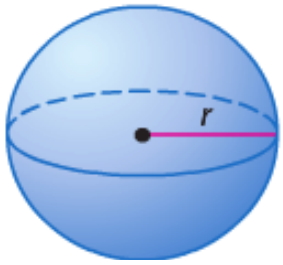
12 - 6

Surface Area and Volume of Spheres

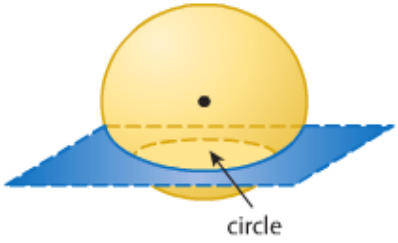
Surface Area of a Sphere

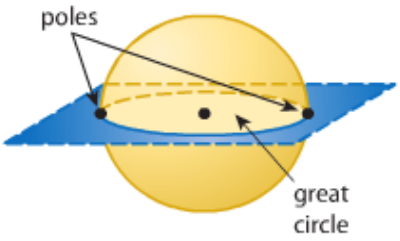


$$S = 4\pi r^2$$

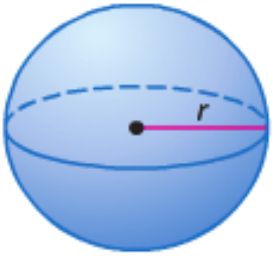
Great Circle

Largest Circle that can be formed inside of a sphere. Must contain the center of the sphere.





Volume of a Sphere



$$V = \frac{4}{3}\pi r^3$$

Surface Area and Volume of a Hemisphere

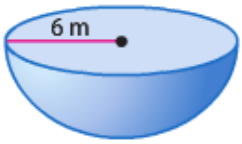
A Hemisphere is half of a sphere. However, an additional surface is exposed (a circle) when cut in half.

$SA = (1/2)(4\pi r^2) + (\pi r^2)$

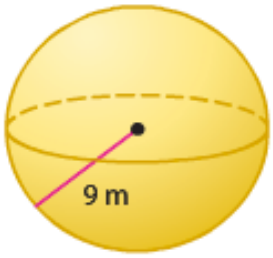
$= 3\pi r^2$

$V = (1/2)(4/3)(\pi r^3)$

$= (2/3)(\pi r^3)$



Find the Surface Area and Volume



Find the Surface Area and Volume