6.5 Surface Area and Volume of Spheres NAME: _____

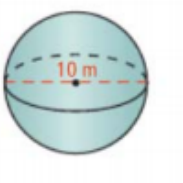
Sphere:

Radius:

Diameter:

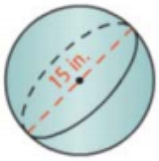
Surface Area of a Sphere Formula =

How many circles are in the surface area of a sphere?



The circumference of a basketball is 29.5 inches.
What is the amount of leather needed to make the basketball?

Volume of a Sphere Formula =



More Examples:

1) Find the surface area and volume in terms of π and rounded to the nearest tenth.

2) The surface area of a sphere is 36π cm^2. What's the sphere's volume?

The Algebros were playing a quick game of dodgeball when Mr. Kelly got KNOCKED OUT because he was too busy trying to find the volume of one dodgeball. He found the surface area of the dodgeball to be 64π inches before he was knocked out. What is the volume?

You try.... Find the surface area and volume of the following sphere.

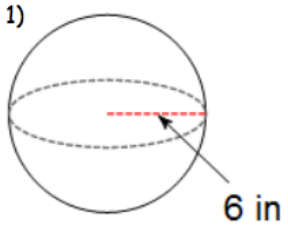
Summary:

_____
_____
_____
_____

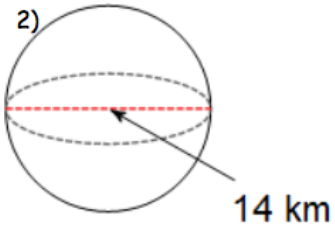
6.5 Practice Problem Set

Directions:
Find the surface area of each figure in terms of π and rounded to the nearest tenth.

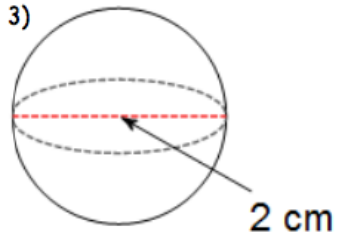
1)



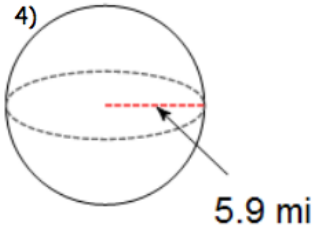
2)



3)

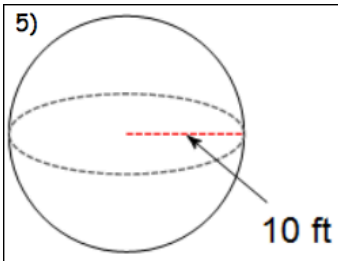


4)

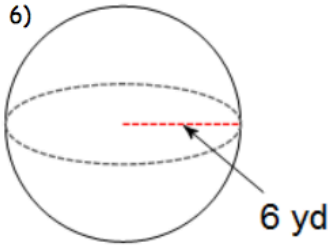


Directions: Find the volume of each figure in terms of π and rounded to the nearest tenth.

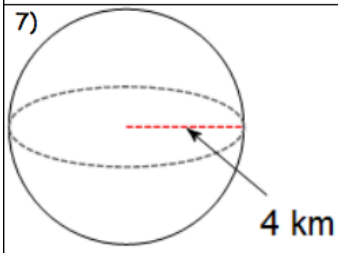
5)



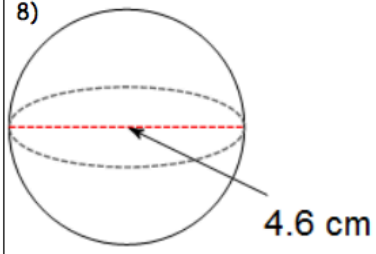
6)



7)



8)

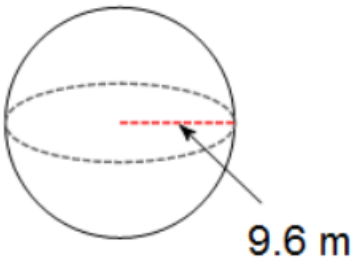


9) The surface area of a sphere is 100π in^2. What's the sphere's volume?

10) The surface area of a sphere is 324π in^2. What's the sphere's volume?

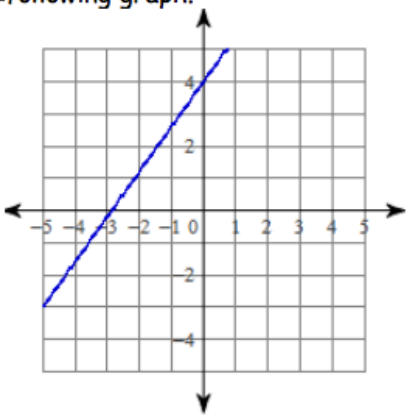
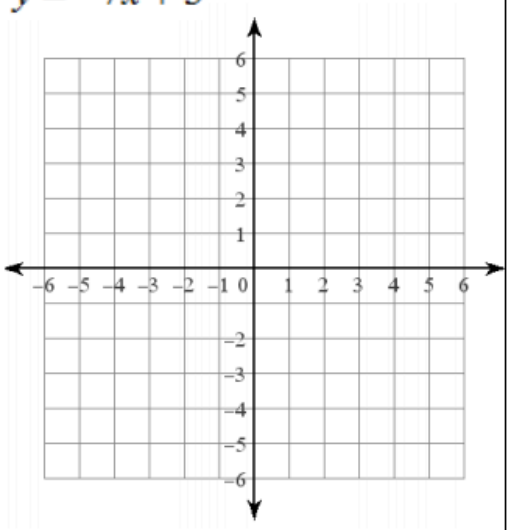
11) The surface area of a sphere is 49π in^2. What's the sphere's volume?

11) Find the volume and surface area of the sphere.



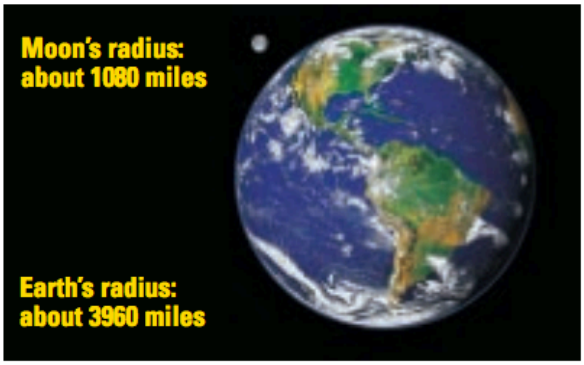
12) The surface area of a sphere is 144π in^2. What's the sphere's volume?

Algebra Review

Solve:	Solve:	Write the equation of the line for the following graph.
1) $19 + 3x > -7(-1 - x)$	2) $-12 - 8n \leq -2(4 + 4n)$	
Factor Completely:	**Factor Completely:**	**Solve by graphing:**
$18x^2 + 18x - 8$	$25n^2 - 9$	$y = -x - 3$ $y = -7x + 3$ 

6.5 APPLICATION and EXTENSION

1) **Astronomy** - Use the information about Earth and its moon given in the photo.



   a) Find the surface area of Earth.

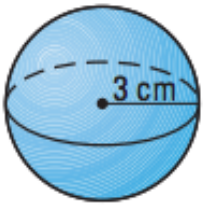
   b) Find the surface area of Earth's moon.

   c) Compare the surface areas of Earth and its moon.

   d) About 70% of Earth's surface is water.

   e) How many square miles of water are on Earth's surface?

2) **You be the Judge** Julie thinks that if you double the radius of the sphere shown at the right, the surface area will double. Is she right? Explain your reasoning.



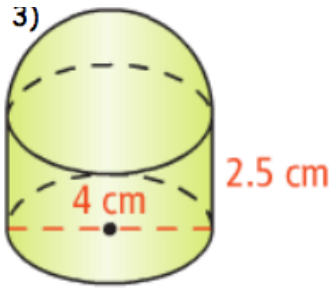
3) Find the surface area and volume of the hemispheres (Half a sphere).

a)

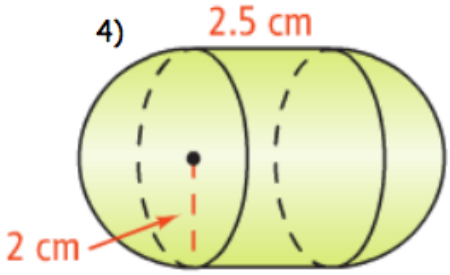
b)

4) Find the surface area and volume of each composite shape below.

a)

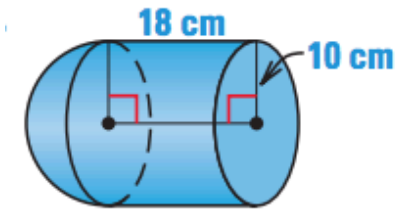


b)

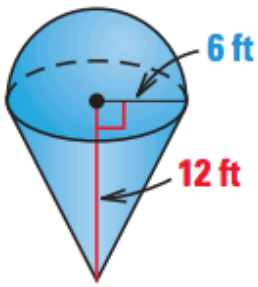


Composite Solids **Find the volume of the solid. Round your answer to the nearest whole number.**

5)



6)



7)