10.6/10.7-- Volume/Surface Area of a Sphere
Notes

Volume of a Sphere

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

r = radius

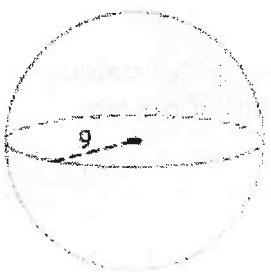
Surface Area of a Sphere

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

r = radius

Examples. Fill in the missing lines.

Volume
Find the volume of the Sphere (in cm)



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

$V =$ ☐

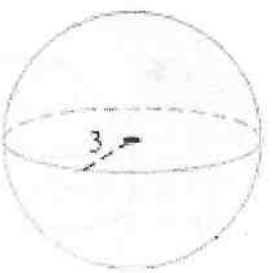
$$V = \frac{4}{3} \cdot 729\pi$$

$$V = \frac{2916}{3}\pi$$

$$V = 972\pi\ cm^3$$

$V =$ ☐

Surface Area
Find the Surface area of the Sphere (in cm)



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

$SA =$ ☐

$$SA = 4\pi 9$$

$$SA = 36\pi\ cm^2$$

$SA =$ ☐

Your Turn!

Volume
Find the volume of a sphere with a radius of 12mm. (Draw a picture)

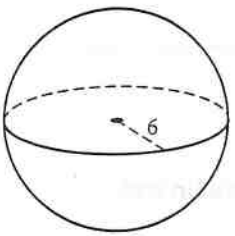
Surface Area
Find the Surface area a sphere with a diameter of 14 km. (Draw a picture)

Lesson 10.6 • Volume of a Sphere

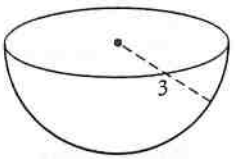
Name _____ Period _____ Date _____

In Exercises 1–6, find the volume of each solid. All measurements are in centimeters. Write your answers in exact form and rounded to the nearest 0.1 cm^3.

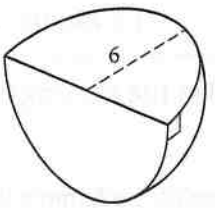
1.



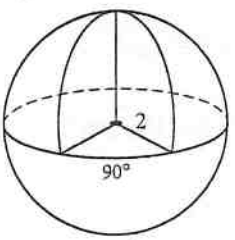
2.



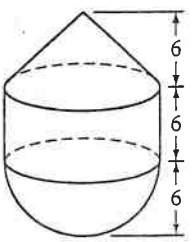
3.



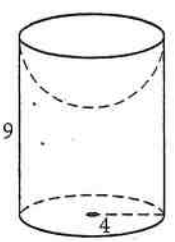
4.



5.

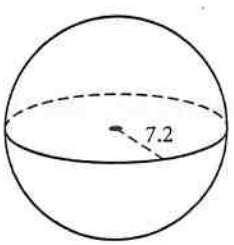


6. Cylinder with hemisphere taken out of the top

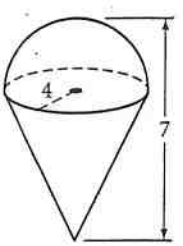


In Exercises 1–4, find the volume and total surface area of each solid. All measurements are in centimeters. Round your answers to the nearest 0.1 cm.

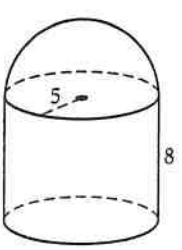
1.



2.



3.



4.