Geometry
Unit: Surface Area and Volume
Section: Surface Area and Volume of Spheres

Review Worksheet KEY

1) Find the surface area and volume of a sphere with a radius of 7 in.

Surface Area = $4\pi r^2 = 4\pi(7)^2 = 196\pi$ in^2

The surface area is approximately 615.75 in^2.

Volume = $\frac{4}{3}\pi r^3 = \frac{4}{3}\pi(7)^3 = \frac{1372\pi}{3}$ in^3
The volume is approximately 1436.76 in^3.

2) Find the surface area and volume of a sphere with a diameter 11 cm.

$r = \frac{1}{2}d = \frac{1}{2}(11) = 5.5$

Surface Area = $4\pi r^2 = 4\pi(5.5)^2 = 121\pi$ cm^2

The surface area is approximately 380.13 cm^2.

Volume = $\frac{4}{3}\pi r^3 = \frac{4}{3}\pi(5.5)^3 = \frac{1331\pi}{6}$ cm^3
The volume is approximately 696.91 cm^3.

3) Find the surface area and volume of a sphere if the circumference of the largest cross section equals

26π ft.

$C = 2\pi r$

$26\pi = 2\pi r$

$13 = r$

Surface Area $= 4\pi r^2 = 4\pi(13)^2 = 676\pi$ ft^2

The surface area is approximately 2123.72 ft^2.

Volume $= \frac{4}{3}\pi r^3 = \frac{4}{3}\pi(13)^3 = \frac{8788\pi}{3}$ ft^3

The volume is approximately 9202.77 ft^3.