Quiz - SA and Volume (1.4, 1.5)
Thursday, October 6th - mcq

Test - Friday, Oct 14.

1.6 Surface Area and Volume of a Sphere

1. The diameter of a softball is approximately 4 in. Determine the surface area of a softball to the nearest square inch.

$SA = 4\pi r^2 = 4\pi(2)^2 = 16\pi = 50.26\ in^2$

$\approx 50\ in^2$

$d = 4\ in$

$r = \frac{d}{2} = 2\ in$

2. The surface area of a soccer ball is approximately 250 square inches. What is the diameter of a soccer ball to the nearest tenth of an inch?

$SA = 4\pi r^2$

$d = ?$

$d = 2r$

① solve for 'r'

② $d = 2r$

$\frac{250}{4\pi} = \frac{4\pi r^2}{4\pi}$

$\sqrt{19.894} = \sqrt{r^2}$

$4.460 = r$

$d = 2r = 2(4.46)$

$d = 8.9$ in

3. The moon approximates a sphere with diameter 2160 mi. What is the approximate volume of the moon?

$V = \frac{4\pi r^3}{3} = \frac{4\pi(1080)^3}{3}$

$d = 2160\ mi$

$r = 1080\ mi$

$V = 5,276,669,286\ mi^3$

$V = 5.28 \times 10^9\ mi^3$

4. A hemisphere has radius 5.0 cm.

a) What is the surface area of the hemisphere to the nearest tenth of a square centimetre?

b) What is the volume of the hemisphere to the nearest tenth of a cubic centimetre?