Surface Area & Volume of Spheres

Homework

For each problem, show all work, including formulas, and round to the nearest tenth unless otherwise specified. Include units.

1. The diameter of a baseball is 7.4 cm.



SA = \_\_\_\_\_\_\_\_\_\_\_

Volume = \_\_\_\_\_\_\_\_\_\_\_

2. The diameter of a golf ball is 4.3 cm.



SA = \_\_\_\_\_\_\_\_\_\_\_

Volume = \_\_\_\_\_\_\_\_\_\_\_

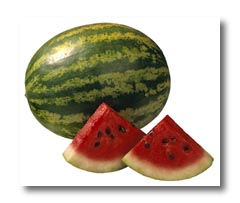
3. Each tennis ball is a sphere with radius 3.4 cm.



SA of all three balls = \_\_\_\_\_\_\_\_\_\_\_

Volume of all three balls = \_\_\_\_\_\_\_\_\_\_\_

4. A spherical watermelon has a 12in. diameter. The volume of a particular spherical cantaloupe (melon) is  of the volume of the watermelon. Find the diameter of the cantaloupe to the nearest tenth of an inch.



1. For the sun to collapse to a “black hole,” it would have to be compressed into

a sphere with radius of 1 kilometer.

SA = \_\_\_\_\_\_\_\_\_\_\_

Volume = \_\_\_\_\_\_\_\_\_\_\_

1. On July 16, 1882, a massive thunderstorm over Dubuque, Iowa, produced huge

hailstones. The diameter of some of the hailstones was 17in. Ice weighs



about 0.033lb/in. What was the approximate weight of one of these

hailstones to the nearest tenth pound?

Weight = \_\_\_\_\_\_\_\_\_\_\_

1. Name the solid formed by rotating the semicircle 360° about

the x-axis. Find the surface area and volume of the solid.

Solid = \_\_\_\_\_\_\_\_\_\_\_

SA = \_\_\_\_\_\_\_\_\_\_\_

Volume = \_\_\_\_\_\_\_\_\_\_\_

For #8-10, draw the solids and show all work.

8. The volume of a cylinder is 600π cm. The radius of a base of the cylinder is 5cm.

What is the height of the cylinder?

Height = \_\_\_\_\_\_\_\_\_\_\_

9. The volume of a cylinder is 135π cm. The height of the cylinder is 15 cm.

What is the radius of a base of the cylinder?

Radius = \_\_\_\_\_\_\_\_\_\_\_

10. The volume of a cube is 64 cm. What is its surface area?

SA = \_\_\_\_\_\_\_\_\_\_\_

11. Find the height of a regular hexagonal prism with base edge of 8cm.

and volume 672 cm.

8 cm

Height = \_\_\_\_\_\_\_\_\_\_\_

12. Find the radius of a cone with a height of 7 m and a volume of 21π m.

Radius = \_\_\_\_\_\_\_\_\_\_\_

13. The surface area of a cone is 96π cm and the lateral area is 60π cm.

Find the radius, slant height and the height of the cone.

Radius = \_\_\_\_\_\_\_\_\_\_\_

Slant Height = \_\_\_\_\_\_\_\_\_\_\_

Height = \_\_\_\_\_\_\_\_\_\_\_

14. A square pyramid has a base edge 12 m and a volume of 384 m.

Find its height and slant height.

Height = \_\_\_\_\_\_\_\_\_\_\_

Slant Height = \_\_\_\_\_\_\_\_\_\_\_