

Name _____

Date _____

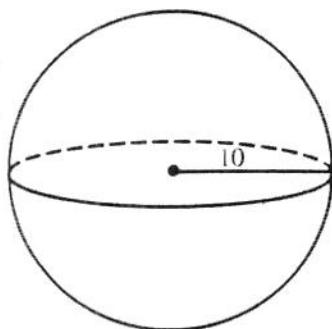
Period _____

Spheres & Volumes of similar shapes

Find the surface area and the volume of each sphere.

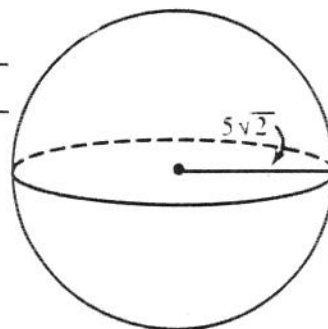
1. $SA =$ _____

$V =$ _____



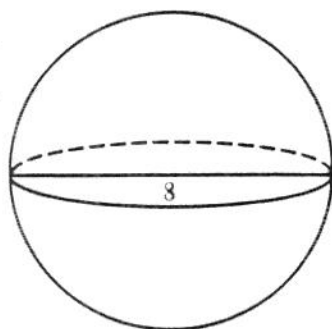
2. $SA =$ _____

$V =$ _____



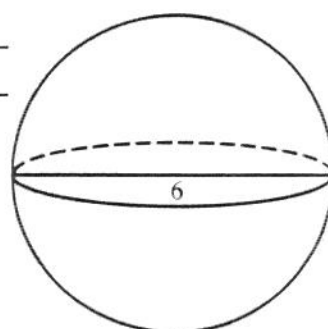
3. $SA =$ _____

$V =$ _____



4. $SA =$ _____

$V =$ _____



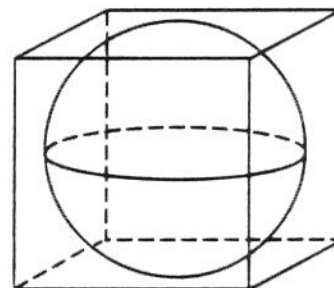
5. Find the radius of a sphere whose surface area is $72\pi \text{ cm}^2$.

6. Find the diameter of a sphere whose surface area is $400\pi \text{ cm}^2$.

7. Find the volume of a sphere whose surface area is $\frac{9}{4}\pi$.

8. Find the surface area of a sphere whose volume is $(8\sqrt{6})\pi$.

9. A cube is circumscribed about a sphere. The sides of the cube have length 10. Find the surface area and volume of the sphere.



10. If the above sphere is an ornament and you wanted to fill the empty space in the box with packing peanuts, what is the volume of the space to be filled?

The figures in each pair are similar. Use the given information to find the similarity ratio of the smaller figure to the larger figure.

11.

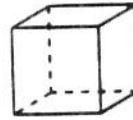


$$S.A. = 49 \text{ cm}^2$$

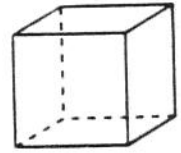


$$S.A. = 81 \text{ cm}^2$$

12.



$$V = 125 \text{ in.}^3$$



$$V = 512 \text{ in.}^3$$

13. A cone shaped pile of sand weighs 250 lbs. How much does a similarly shaped pile of sand weigh if each dimension is six times as large?

14. A block of ice weighs 2 lbs. How much does a similarly shaped block of ice weigh if each dimension is twice as large?

15. The Farmer Fun Toy Company sells scaled down models of farm equipment and buildings. The Farmer Fun Farmhouse Set includes a cylindrical grain silo which has dimensions which are one-eighth the size of a real grain silo. If the toy grain silo has a volume of 100 cubic centimeters, what is the volume the real grain silo?

