

NAME \_\_\_\_\_

Wes

DATE \_\_\_\_\_

SCORE \_\_\_\_\_

## Practice 48

### Similar Solids

Lessons 12-4, 12-5

Complete the table for spheres.

Radius	Area	Volume
1. $\frac{3}{2}$	$9\pi$	$\frac{9\pi}{2}$
2. $6$	$144\pi$	$288\pi$
3. $\frac{1}{2}$	$\pi$	$\frac{1}{6}\pi$

4. Find the area of a circle formed when a plane passes 3 cm from the center of a sphere with radius 7 cm.  $40\pi$   $\text{cm}^2$
5. A cube with each edge of length 8 cm is topped by a hemisphere of radius 4 cm. Find the volume of the figure.  $512 + \frac{128\pi}{3}$   $\text{cm}^3$
6. Two regular pyramids have heights 12 cm and 21 cm. Their bases are squares with sides 20 cm and 35 cm. Are the pyramids similar? Yes
7. Two spheres have diameters 14 and 21. Find the ratios of the following:  
 a. radii 2:3      b. areas 4:9      c. volumes 8:27
8. Two similar cones have volumes in the ratio 27:64. Find the ratios of the following:  
 a. radii 3:4      b. base circumferences 3:4      c. lateral areas 9:16
9. Two similar prisms have lateral areas 48 and 75. Find the ratios of the following:  
 a. heights 4:5      b. total areas 16:25      c. volumes 64:125
10. Two similar pyramids have a scale factor of 3:5. If the total area of the smaller pyramid is  $36 \text{ m}^2$ , find the total area of the larger pyramid.  $100 \text{ m}^2$
11. Two similar prisms have volumes 54 and 250. If the lateral area of the larger prism is 150, find the lateral area of the smaller prism. 54