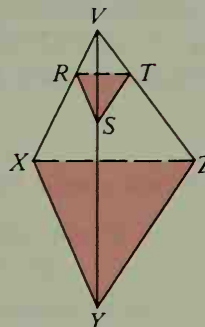13. A sphere has radius 7 m. Use $\pi \approx \frac{22}{7}$ to find the approximate area of the sphere.

14. Find, in terms of π, the volume of a sphere with diameter 12 ft.

15. Find the volume of a sphere with area 484π cm²:

Plane *RST* ∥ **plane** *XYZ* **and** *VS*:*VY* = 1:3.

16. $\dfrac{\text{perimeter of } \triangle RST}{\text{perimeter of } \triangle XYZ} = \dfrac{?}{\_\_\_}$

17. $\dfrac{\text{total area of small pyramid}}{\text{total area of large pyramid}} = \dfrac{?}{\_\_\_}$

18. $\dfrac{\text{volume of small pyramid}}{\text{volume of bottom part}} = \dfrac{?}{\_\_\_}$

19. Two similar cylinders have lateral areas 48π and 27π. Find the ratio of their volumes.

12–4

12–5

Chapter Test

1. Find the volume and the total area of a cube with edge $2k$.

2. A regular square pyramid has base edge 3 cm and volume 135 cm². Find the height.

3. A cone has radius 8 and height 6. Find the volume.

4. Find the lateral area and the total area of the cone in Exercise 3.

5. A right triangular prism has height 20 and base edges 5, 12, and 13. Find the total area.

6. Find the volume of the prism in Exercise 5.

7. A cylinder has radius 6 cm and height 4 cm. Find the lateral area.

8. Find the volume of the cylinder in Exercise 7.

9. A regular square pyramid has lateral area 60 m² and base edge 6 m. Find the volume.

10. A sphere has radius 6 cm. Find the area and the volume.

11. Two cones have radii 12 cm and 18 cm, and have slant heights 18 cm and 24 cm. Are the cones similar? Explain.

12. A regular pyramid has height 18 and total area 648. A similar pyramid has height 6. Find the total area of the smaller pyramid.

13. The volumes of two similar rectangular solids are 1000 cm³ and 64 cm³. What is the ratio of their lateral areas?

14. A cone and a cylinder each have radius 3 and height 4. Find the ratio of their volumes and of their lateral areas.

15. Find the volume of a sphere with area 9π.

16. A cylinder with radius 7 has total area 168π cm². Find its height.