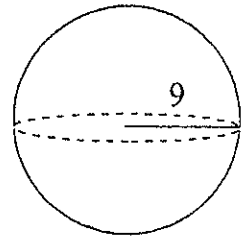# Unit I Exam Review

1. Consider the sphere at the right.

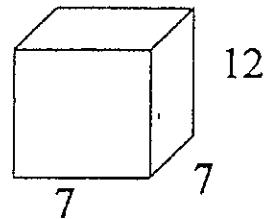   a. Find its surface area.

   b. Find its volume.

2. A sphere has radius 1.2 m. What is its **surface area** to the nearest tenth of a square meter?

3. A sphere has diameter 4.0 cm. What is its **volume**, to the nearest tenth of a centimeter?

4. A right square prism has base edge length 7 and height 12. Find...

   a. its volume.
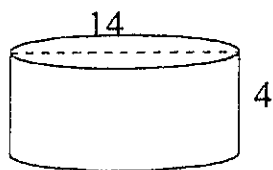
   b. its surface area.

5. Suppose all the dimensions of a right rectangular prism are multiplied by 5.

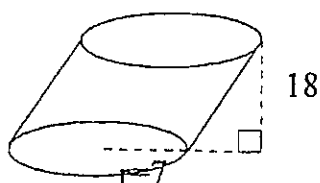   a. What happens to its surface area?
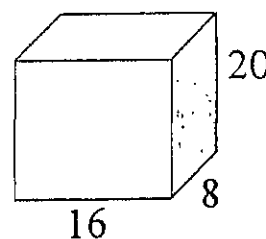
   b. What happens to its volume?

6. Find the **exact volume** of a right cylinder with diameter of 14 and height 4.

14

4

7. Find the **exact volume** of the oblique cylinder below.

18

r=7

8. The volume of a sphere is 3,000 in³. Give the **radius** of the sphere to the nearest hundredth.

9. The surface area of a sphere is 400 cm². Give the **radius** of the sphere to the nearest tenth.

10. A right rectangular prism has dimensions 8, 16, and 20. Find:
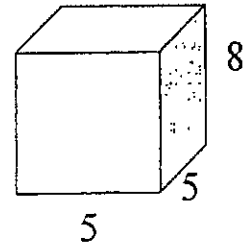
    a. its volume.

    b. its surface area.

20

8

16

11. Find the **lateral area** of a right rectangular prism with width 4, length 6, and height 8.

12. A right square prism has base edge length 5 and height 8. Find:

    a.   its volume.

    b.   its surface area.

13. A box has dimensions 12 ft, 15 ft, and 18 ft. Find:

    a.   its volume.

    b.   its surface area.

14. The volume of a prism with a square base is 1,080 cm^3, and its height is 30 cm. Find:
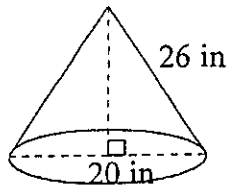
    a.   the area of the its base.

    b.   the length of a side of the base.

15. A cube has volume 2,197 mm^3. Find the length of an edge of the cube.

16. The volume of a cylinder is 72π cm^3. If its radius is 3 cm, what is its **height**?

17. Find the volume of the cone below.

18. The volume of a cone is 125π cm³. If its radius is 5 cm, what is its **height**?

19. A pyramid has a square base. Its volume is 324 mm³. If its height is 12 mm, what is the **length of a base edge**?

20. A cube has a surface area of 216 cm². Find its volume.

21. What is the formula for determining the **lateral area** of a right cylinder if its radius is r and its height is $4r$.

22. A sphere has circumference 24π. Find the **volume** of the sphere.