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**Honors Math 3 Solids Review Sheet**

*Unless otherwise directed, leave all answers in terms of π or in simplest radical form.*

*Find the lateral area, surface area, and volume of:*

1. a cube whose base has a perimeter of 28 ft.

2. a prism with bases that are equilateral triangles with sides of 12 cm and a height of 20 cm.

3. a cone that has radius 3 ft. and height 4 ft.

4. a cylinder with diameter of 10 ft and height of 15 ft.

5. a square pyramid which has a base with sides of 6 cm and a height of 12 cm.

6. a sphere with diameter of 16 meters.

7. The area of the base of a right cone is 144π sq cm and the height is 5 cm. Find the lateral area.

8. A cylindrical can contains three tennis balls that have a diameter of 4 inches. Find the amount of wasted space in the can.

9. A semicircular piece of paper whose radius is 8 inches is rolled into a conical drinking cup. Find the volume of the cup.

10. A spherical water tank is 40 feet in diameter. How many gallons of water can be stored in the tank if 1 cu ft = 7.5 gallons?

11. If one gallon of paint covers 300 sq feet, how many gallons will be needed to give the tank in #10 one coat of paint?

12. A sphere is inscribed in a cylinder. If the diameter of the sphere is 8 feet, find the amount of wasted space in the cylinder.

13. A cylinder with a 3 foot diameter is bored through a prism in which the bases are equilateral triangles with sides of 14 feet and a height of 10 feet. Find the surface area of the figure.

14. A sphere has a surface area of 100π square inches. Find the volume of the sphere.

15. Determine the surface area of the remainder of a cake that is 6 inches high with a 10 inch diameter after Mr. Piggie eats a 45 ° slice.

16. Find the amount of Saran wrap needed to cover a half of a grapefruit that is 5 inches in diameter.

17. The volume of a rectangular prism is 162 cubic inches. If the width is twice the height and the length is one-and-a- half times the width, find the dimensions of the prism.