**Section 600.TABLE G Measurement of Surfaces and Volumes**

To find the capacity of a rectangular box or bin: Multiply the length by the breadth by the depth or height. The three dimensions must be in the same units.

Example: A bin is 6 ft. wide, 5 ft. 6 in. deep and 8 ft. 3 in. long. Its capacity is 6 x 5½ x 8¼ = 272¼ cubic feet.

To find the capacity of a cylindrical measure or box, or bin: Multiply the diameter by the diameter by 3.1416 by the height and divide by 4. Example: If a cylindrical measure is 13 inches in diameter and 6 inches in depth, its capacity is (13 x 13 x 3.1416 x 6) - 4 = 796.39 cubic inches.

To find the approximate capacity of a barrel of dimensions different from those given in the statutes by measuring the mean diameter and depth. Example: A barrel is 25 inches between the heads inside. The inside diameter of the top and bottom is 18 inches and the inside diameter at the center is 20 inches. Find the capacity. The average diameter is approximately ½ of the diameter of the ends and of the center, or (18" + 20") divided by 2 = 19 inches. Then proceed as in the case of a cylinder. (19 x 19 x 3.1416 x 25) divided by 4 = 7088.2 cu. in.

To find the approximate capacity of a berry box which has sloping sides: Add the area at the top to the area of the bottom, divide this sum by two and multiply the quotient by the depth.

Circumference of a circle = diameter x 3.1416

Area of a circle = ½ diameter x ½ circumference = square of radius x 3.1416

Area of a parallelogram = base x altitude

Area of triangle = ½ base x altitude (perpendicular)

Area of a regular polygon = ½ the perimeter x perpendicular to one of sides

Volume of pyramid = area of base x ⅓ of the altitude

Volume of a prism = area of its base x its altitude

Volume of a frustrum of a pyramid = (area of sum of two bases + mean proportional between them) x ⅓ of the altitude. (Mean proportional between two numbers = square root of their product.)

Volume of a cone = area of base x ⅓ of the altitude

Volume of the frustrum of a cone = (area of sum of two bases = a mean proportional between them) x ⅓ of the altitude. (Mean proportional between two numbers = square root of their product.)

Surface of a sphere = diameter x circumference of a great circle.

Volume of a sphere = area of surface x ⅓ of its radius.