

Mensuration of Surface and Solids

- (1) Sphere. 9 inches in diameter: rule, Cube the diameter and Multiply it by .5236 gives the Solidity, thus, $9 \times 9 \times 9 \times .5236 = 381.7044$ Solidity. (2) Cone 4 Inches in diameter at the base, and 8 inches high. rule, Multiply the Square of the radius ($\frac{1}{2}$ of 4) by 3.1416 the product by the height, take one third for the solidity. 33.5104 solidity. (3) Cube 8 inches each way, cube $8 \times 8 \times 8 = 512.00$ Solidity. (4) Hemisphere 16 inches in Diameter. rule, Cube the diameter Multiply it by .5236 take half the product for the Solidity 1072.3328 . (5) Triangular Pyramid each side of the base being 9 inches, and the height 11 inches rule. square the side and Multiply it the Tabular area, that product by one $\frac{1}{3}$ of the height. thus: $9 \times 9 \times 0.433012 \times 11 = 128.3709$ solidity. (6) Square pyramid 8 inches on each side, and 10 inches high. rule, Square the side of the polygon, then Multiply that square by one $\frac{1}{3}$ of the height the product will be the Solidity. Thus, $8 \times 8 = 64$. $\frac{1}{3}$ of 10 = 3.3333 $\times 64 = 21.3333$ solidity. (7) Hexangular pyramid (6 sides) 6 inches on each side and $11\frac{1}{2}$ inches high. rule. Square the side of the Polygon, Multiply the square by the tabular area, that product by one $\frac{1}{3}$ the altitude, will give the Solidity Thus, $6 \times 6 = 36 \times 2.5980762 \times 3.8333 = 358.50331$ Solidity. (8) Octangular pyramid each side of the base being 4 inches and the height $10\frac{1}{2}$ inches. rule. as the next above.

Consult Davies Geometry
Tabular area Table Page 281

	Content of each
1. Sphere 9 inches in diameter	381.7044
2. Cone. 4 inches in diameter and 8 In. high.	33.5104
3. Cube 8 inches on each side and 10 In high.	512.0000
4. Hemisphere 16 inches in diameter	1072.3328
5. Triangular Pyramid base 9 & height 11 in.	128.3709
6. Square Pyramid, base 8 in. height 10 in.	21.3333
7. Hexangular Pyramid 6 in. base, & $11\frac{1}{2}$ high.	358.5033
8. Octangular Pyramid 4 in. $10\frac{1}{2}$ high	270.3919

The ans. produced to the question,
Gallons 32.7315

2778.1470
108000000
282) 80218530
2 Gal. - 28.4462

(C) 100

(C) 100

(C) 100

(C) 100

9.75

4.25 2.55 2.35

Charles R. Smith

1000

1000

1000

1000

2.14 2.14 2.14