

SOLID GEOMETRY — *concluded*

14 If the radius of a cone is doubled and its altitude halved, its volume is multiplied by

Ans.....

15 If the lateral area of a right circular cylinder is increased by 24π when its altitude is increased by 3, the radius of the cylinder is

Ans.....

16 A plane passes through the center of a sphere whose radius is 6 inches. The locus of points 1 inch from the plane and 1 inch from the sphere consists of circles. The number of such circles is

Ans.....

17 The radius of the earth is 4000 miles; the radius of the 45th parallel of latitude (45° N.) is ... miles. [Answer may be left in radical form.]

Ans.....

18 The diameter of the sun is 100 times that of the earth; therefore, the volume of the sun is ... times that of the earth.

Ans.....

19 The greatest number of angles of a spheric quadrilateral that can be right angles is

Ans.....

20 The radius of a sphere is $4\frac{1}{2}$ inches. The area of a zone whose bases are a great circle and a small circle 4 inches from the center of the sphere is ... square inches.

Ans.....

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