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than water, (the weight f air on the re) be thirty on a square hole weight earth as'in

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cumference ts djameter,

ns. 44 feet. ide to side, Ans. 124, 7 feet, what s. 462 feet. circumfers. 147 feet. 174. If the distance through the centre of the earth, from side to side, be 7911 miles, how many miles around it?

7911×3'14159=24853 square miles, nearly. Ans.

175. What is the area or contents of a circle whose diameter is 7 feet, and its circumference 22 feet ?

Note. The area of a circle may be found by multiplying half the diameter into half the circumference.

Ans. 38½ square feet. 176. What is the area of a circle whose circumference is 176 rods? Ans. 2464 rods.

177. If a circle is drawn within a square, containing one square rod, what is the area of this circle?

Note. The diameter of the circle being one rod, the circumference will be 3'14159,

Ans. '7854 of a square rod, nearly. Hence, if we square the diameter of any circle, and multiply the square by '7854, the product will be the area of the circle.

178. What is the area of a circle whose diameter is ten rods?  $10^2 \times '7854 = 78'54$ . Ans. 78'54 rods.

179. How many square inches of leather will cover a ball 3½ inches in diameter?

Note. The area of a globe or ball is 4 times as much as the area of a circle of the same diameter, and may be found, therefore, by multiplying the whole circumference into the whole diameter. Ans. 38½ square inches.

180. What is the number of square miles on the surface of the earth, supposing its diameter 7911 miles?

7911×24853=196,612,083, Ans. 181. How many solid inches in a ball 7 inches in diameter?

Note. The solid contents of a globe are found by multiplying its area by  $\frac{1}{2}$  part of its diameter.

Ans. 1793 solid inches.

182. What is the number of cubic miles in the earth, supposing its diameter as above?

Ans. 259,223,031,435 miles. 183. What is the capacity, in cubic inches, of a hollow globe 20 inches in diameter, and how much wine will it contain, one gallon being 231 cubic inches?

Ans. 4188'8-cubic inches, and 18'13+gallons.