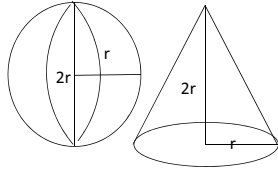


6.3-E- Volume of a Sphere

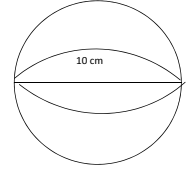
$$\begin{aligned}
 V_{\text{sphere}} &= 2 V_{\text{cone}} \\
 &= 2\left(\frac{\pi r^2 \cdot h}{3}\right) \\
 &= 2\left(\frac{\pi r^2 \cdot 2r}{3}\right) \\
 &= \frac{4\pi r^3}{3}
 \end{aligned}$$



$$V_{\text{sphere}} = \frac{4\pi r^3}{3}$$

$$V_{\text{sphere}} = \frac{4\pi r^3}{3}$$

Ex 1: Find the volume of the sphere with diameter 10 cm



2

Ex 2: Find the volume of the Earth in km^3



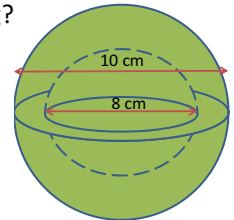
diameter = 12 756 km

$r = 6\,378 \text{ km}$

3

Ex 3: p.201 # 73

The interior and exterior diameters of a metallic ball are 8 cm and 10 cm respectively. What is the ball's mass if the mass of 1 dm^3 of this metal is 3 Kg?



4

Practice:
page 200 # 59(a,b),64,68,70,72



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