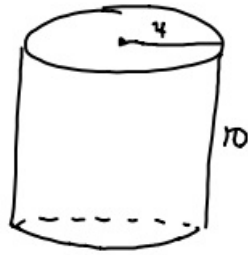


2-11-19 5th Geo

①



Volume = ?

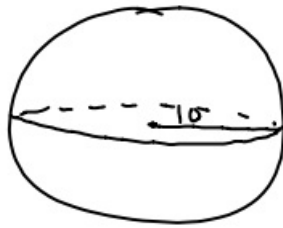
$$\pi r^2 \cdot h$$

$$\pi \cdot 4^2 \cdot 10$$

$$160\pi$$

$$\approx 502.7 \text{ cm}^3$$

②



$$V = \frac{4}{3} \pi r^3$$

$$S.A. = 4\pi r^2$$

$$V = \frac{4}{3} \pi \cdot 10^3$$
$$\approx 4188.8 \text{ cm}^3$$

$$S.A. = 4 \cdot \pi \cdot 10^2$$
$$\approx 1256.6 \text{ cm}^2$$

③ Volume of a pyramid that has a height of 9 cm and a square base with each side being 5 cm.

$$V = \frac{1}{3} l \cdot w \cdot h$$

$$= \frac{1}{3} (5 \cdot 5 \cdot 9)$$

$$75 \text{ cm}^3$$

- ④ How many cubes that are 3 cm on a side can fit into a cube that is 9 cm on a side?

9 cm cube
Hold

$$V = s^3$$

$$V = 9^3 \text{ cm}^3$$

3 cm cube

$$V = s^3$$

$$V = 3^3$$

$$V = 27 \text{ cm}^3$$

$$\frac{729}{27} = 27$$

- ⑤ What is the volume of a sphere that has a diameter of 20 cm?

$$V = \frac{4}{3} \pi r^3$$

$$= \frac{4}{3} \cdot \pi \cdot 10^3$$

$$\approx 4188.8 \text{ cm}^3$$

- ⑥ How much space is left in side a cylinder that has a radius of 4 cm and a height of 8 cm if 3 spheres of radius 2 cm are put inside the cylinder?

Volume of
Cylinder

$$\pi r^2 h$$

$$\pi \cdot 4^2 \cdot 8$$

$$\approx 402.1 \text{ cm}^3$$

Spheres 😊

$$\frac{4}{3} \pi r^3$$

$$= \frac{4}{3} \pi \cdot 2^3$$

$$\approx 33.51 \text{ cm}^3$$

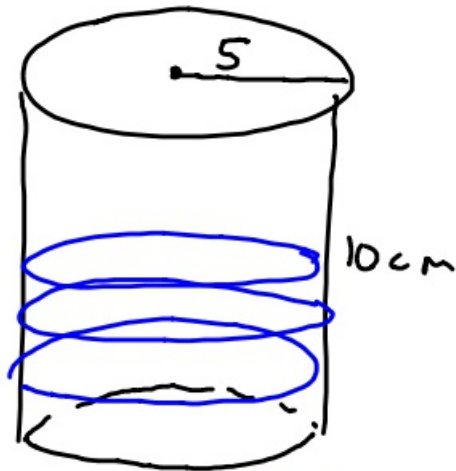
$$\times \quad 3$$

$$100.53 \text{ cm}^3$$

$$\begin{array}{r} 402.1 \\ - 100.53 \\ \hline \approx 301.57 \text{ cm}^3 \end{array}$$

2-11-19 6th Geo

①



Volume = ?

$$\begin{aligned}V &= \pi r^2 \cdot h \\&= \pi \cdot 5^2 \cdot 10 \\&= 250\pi \\&\approx 785.4 \text{ cm}^3\end{aligned}$$

②

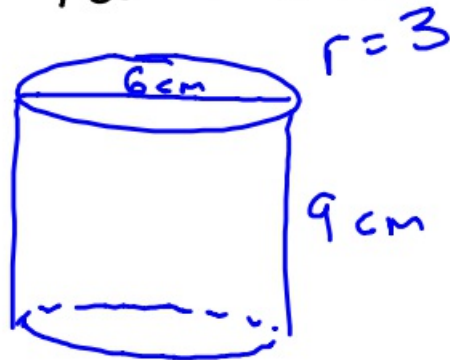


Volume
and
Surface Area

$$\begin{aligned}\text{Volume} &= \frac{4}{3}\pi r^3 \\&= \frac{4}{3} \cdot \pi \cdot 9^3 \\&\approx 3053.6 \text{ cm}^3\end{aligned}$$

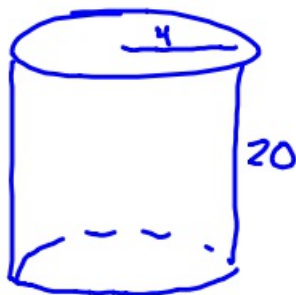
$$\begin{aligned}\text{S.A.} &= 4\pi r^2 \\&= 4 \cdot \pi \cdot 9^2 \\&\approx 1017.9 \text{ cm}^2\end{aligned}$$

- ③ What is the volume of a cylinder with a diameter of 6 cm and a height 3 times its radius?



$$\begin{aligned}
 V &= \pi r^2 h \\
 &= \pi \cdot 3^2 \cdot 9 \\
 &= 81\pi \\
 &\approx 254.5 \text{ cm}^3
 \end{aligned}$$

- ④ How much space is left in a cylinder with radius of 4 cm and height of 20 cm if you place 10 spheres of radius 2 cm in the cylinder?



$$\begin{aligned}
 &\pi r^2 h \\
 &\pi \cdot 4^2 \cdot 20 \\
 &320\pi
 \end{aligned}$$

$$\begin{aligned}
 &\approx 1005.3 \text{ cm}^3 \\
 &\quad - \quad 335.0 \\
 &\hline
 &\approx 670.3 \text{ cm}^3
 \end{aligned}$$

$$\begin{aligned}
 &\text{☺} \quad \frac{4}{3}\pi r^3 \\
 &\quad \frac{4}{3}\pi \cdot 2^3 \\
 &\quad \approx 33.5 \text{ cm}^3 \\
 &\quad \times 10 \\
 &\hline
 &\quad 335 \text{ cm}^3
 \end{aligned}$$