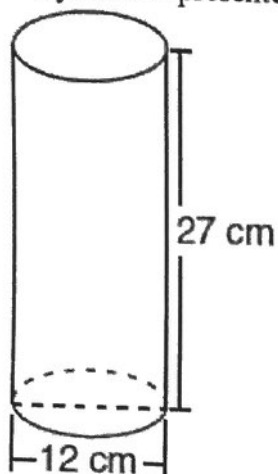


$$* V = \pi r^2 h$$

- 1 What is the volume, to the nearest hundredth, of the cylinder represented in the diagram below?



$$V = \pi (6)^2 (27)$$

$$V = 972\pi$$

$$V = 3053.63 \text{ cm}^3$$

- 2 What is the volume, to the nearest cubic centimeter, of a cylinder that has a height of 15 cm and a diameter of 12 cm?

$$V = \pi (6)^2 (15)$$

$$V = 540\pi$$

$$V = 1696 \text{ cm}^3$$

- 3 A cylinder has a height of 7 cm and a base with a diameter of 10 cm. Determine the volume, in cubic centimeters, of the cylinder in terms of π .

$$V = \pi (5)^2 (7)$$

$$V = 175\pi \text{ cm}^3$$

- 4 A right circular cylinder has a volume of 1,000 cubic inches and a height of 8 inches. What is the radius of the cylinder to the nearest tenth of an inch?

$$1000 = \pi r^2 (8)$$

$$125 = \pi r^2$$

$$\frac{125}{\pi} = r^2$$

$$\sqrt{39.788} = r$$

$$6.3 = r$$

- 5 The volume of a cylinder is $12,566.4 \text{ cm}^3$. The height of the cylinder is 8 cm. Find the radius of the cylinder to the nearest tenth of a centimeter.

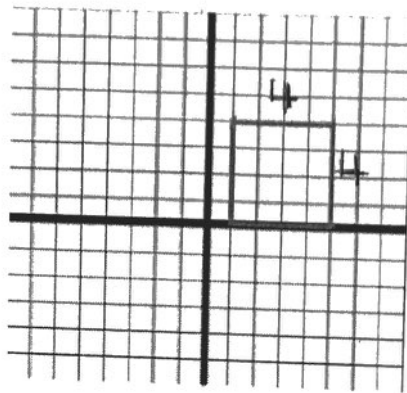
$$12,566.4 = \pi r^2 (8)$$

$$\frac{1570.8}{\pi} = \frac{\pi r^2}{\pi}$$

$$\sqrt{500.001} = \sqrt{r^2}$$

$$22.4 = r$$

- 6 What is the volume (to nearest tenth) of the solid formed when the figure below is rotated about the x-axis?



$$V = \pi (4)^2 (4)$$

$$V = 201.1$$