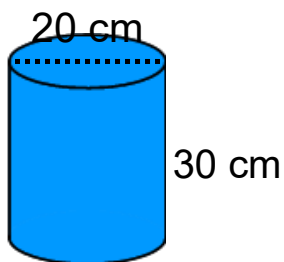


Warm Up Grade 8



Find the VOLUME

May 29



$$d = 20 \text{ cm}$$

$$r = 10 \text{ cm}$$

$$H = 30 \text{ cm}$$

$$V = A_{\text{base}} \times H$$

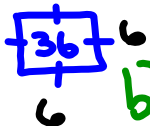
$$\begin{aligned} A_0 &= \pi r^2 \\ &= 3.14 \times (10 \text{ cm})^2 \\ &= 3.14 \times 100 \text{ cm}^2 \\ &= 314 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} V &= A_{\text{base}} \times H \\ &= 314 \text{ cm}^2 \times 30 \text{ cm} \\ &= 9420 \text{ cm}^3 \end{aligned}$$

Ex2)

Surface Area of a cube is 216 cm^2 .

a) What is the area of one face?
 Cube \rightarrow 6 equal squares as faces.
 Area of 1 face = $216 \text{ cm}^2 \div 6 = 36 \text{ cm}^2$



b) What is the dimensions of the cube? (Side \rightarrow L, w, H all equal)

$$\text{side} = \sqrt{36} = 6$$

c) what is the volume of the cube?

$$\begin{aligned} V &= A_{\text{base}} \times H \\ &= (L \times w) \times H \\ &= 6 \times 6 \times 6 \\ &= 216 \text{ cm}^3 \end{aligned}$$

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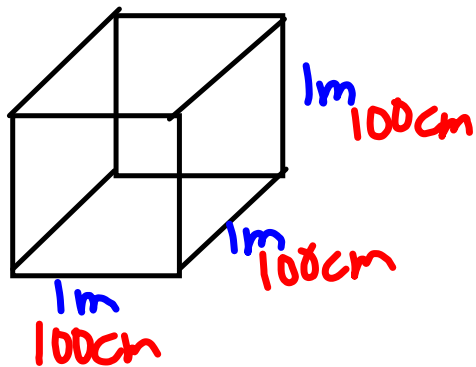
1. Volume of can 452 cm^3
 Contents of can 398 ml

Why the difference?

The can is never filled to the top with beans, and that is why the amount of beans is less than the actual volume.

2. The radius was changed to m because the height was in m .

$$\text{Volume } 46 \text{ m}^3 = \underline{\hspace{2cm}} \text{ cm}^3$$



$$\begin{aligned} V &= l \times w \times h \\ &= 1 \times 1 \times 1 \\ &= 1 \text{ m}^3 \end{aligned}$$

$$\begin{aligned} \text{Vol} &= l \times w \times h \\ &= 100 \times 100 \times 100 \\ &= 1\,000\,000 \text{ cm}^3 \end{aligned}$$

$$\begin{aligned} 1 \text{ m}^3 &= 1\,000\,000 \text{ cm}^3 \\ 46 \text{ m}^3 &= 46\,000\,000 \text{ cm}^3 \end{aligned}$$

3. The number for cm^3 is very large

$$\begin{aligned}
 4a) \text{ Vol} &= A_b \times h \\
 &= 78.5 \times 10_3 \\
 &= 785 \text{ cm}^3
 \end{aligned}$$

$$\begin{aligned}
 b) \text{ Vol} &= A_b \times h \\
 &= 12.6 \times 5_3 \\
 &= 63 \text{ cm}^3
 \end{aligned}$$

$$6.3 \times 10$$

$$\begin{aligned}
 c) \text{ Vol} &= A_b \times h \\
 &= 201.1 \times 8 \\
 &= 1608.8 \text{ cm}^3
 \end{aligned}$$

$$\begin{aligned}
 5. \text{ } A_b &= \pi r^2 \\
 &= 3.14 \times 4^2 \\
 &= 3.14 \times 16 \\
 &= 50.24 \text{ cm}^2
 \end{aligned}$$

$$\begin{aligned}
 \text{Vol} &= A_b \times h \\
 &= 50.24 \times 10 \\
 &= 502.4 \text{ cm}^3
 \end{aligned}$$

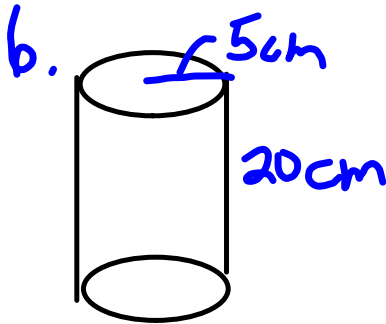
$$\begin{aligned}
 b) \text{ Vol} &= A_b \times h \\
 &= 176.625 \times 50 \\
 &= 8831.25 \text{ cm}^3
 \end{aligned}$$

$$\begin{aligned}
 d &= 15 \\
 r &= 7.5
 \end{aligned}$$

$$\begin{aligned}
 A_b &= \pi r^2 \\
 &= 3.14 \times 7.5^2 \\
 &= 3.14 \times 56.25 \\
 &= 176.625 \text{ cm}^2
 \end{aligned}$$

$$\begin{aligned}
 c) \text{ } A_b &= \pi r^2 \\
 &= 3.14 \times 2.9^2 \\
 &= 3.14 \times 8.41 \\
 &= 26.4074 \text{ cm}^2
 \end{aligned}$$

$$\begin{aligned}
 \text{Vol} &= A_b \times h \\
 &= 26.4074 \times 12.4 \\
 &= 327.45 \text{ cm}^3
 \end{aligned}$$



$$\begin{aligned}
 A_b &= \pi r^2 \\
 &= 3.14 \times 5^2 \\
 &= 3.14 \times 25 \\
 &= 78.5 \text{ cm}^2
 \end{aligned}$$

$$\begin{aligned}
 \text{Vol} &= A_b \times h \\
 &= 78.5 \times 20 \\
 &= 1570 \text{ cm}^3
 \end{aligned}$$

1570 cm³ of wax needed.

8.

$$\begin{aligned}
 d &= 10 \text{ cm} \\
 r &= 5 \text{ cm}
 \end{aligned}$$

$$\begin{aligned}
 A_b &= \pi r^2 \\
 &= 3.14 \times 5^2 \\
 &= 3.14 \times 25 \\
 &= 78.5 \text{ cm}^2
 \end{aligned}$$

$$\begin{aligned}
 \text{Vol} &= A_b \times h \\
 &= 78.5 \times 2.5 \\
 &= 196.25 \text{ cm}^3
 \end{aligned}$$

196.25 cm³ of rubber needed for the hockey puck

Class/Homework

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$$\begin{aligned} d &= 15 \text{ cm} \\ r &= 2.6 \end{aligned}$$

$$\begin{aligned} A_0 &= \pi r^2 \\ &= 3.14 \times r \times r \\ &= \text{cm}^2 \\ V &= A_0 \times H \end{aligned}$$

#9, #11, #12, #13, #14, #15

Test Thursday Remember

cm²
↓
↓
↓

