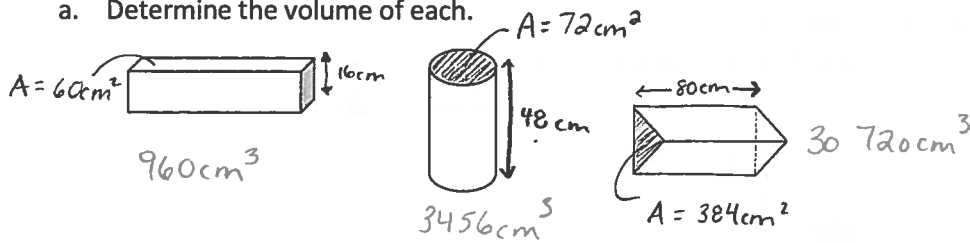


Math 8: Volume Final Exam Review

• **Volume Introduction**

a. Determine the volume of each.



b. What is the volume of a right prism when its area of its base is 72 cm^2 and its height is 48 cm ? 3456 cm^3

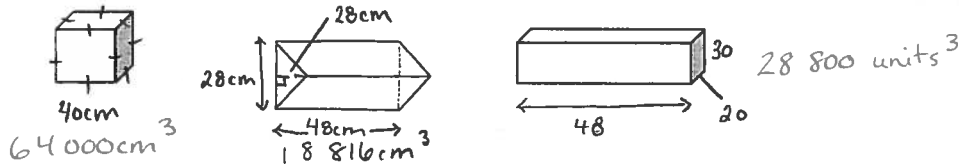
c. What is the height of a right rectangular prism if the volume is 128 cm^3 and the area of the base is 32 cm^2 ? 4 cm

d. A can of paint has a base area of 32.4 cm^2 , and the height is 40 cm . When the can is opened the paint only comes up to a height of 36 cm . What volume of paint is in the can?

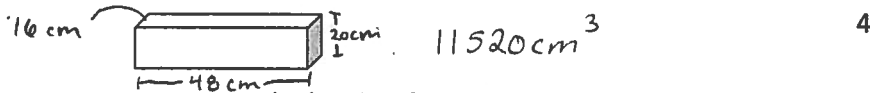
1166.4 cm^3

• **Volume of a Prism**

a. Determine the volume of the following.

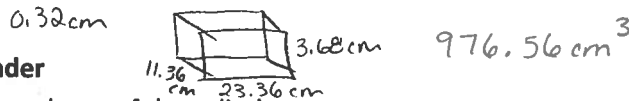


b. Determine the volume of the empty space if the container is $\frac{1}{4}$ full.



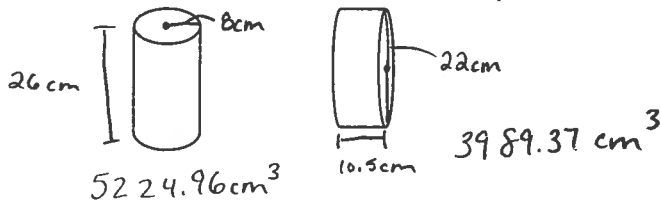
c. Determine the height of a right triangular prism if the base is 28 cm long, the height of the triangle is 8 cm and the height of the prism is 280 cm . 31360 cm^3

d. A tank built as a rectangular prism has outside dimensions of $24 \text{ cm} \times 12 \text{ cm} \times 4 \text{ cm}$. It has no lid. The tank is 32 mm thick. What is the maximum volume the tank can hold?

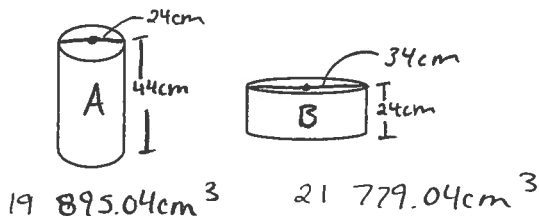


• **Volume of a Cylinder**

a. Determine the volume of the cylinders.



b. Which container will hold more paint?



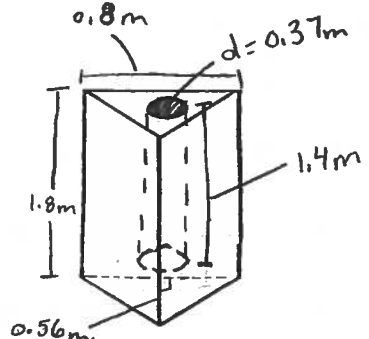
Container B.

• **Volumes of Prisms and Cylinders**

- a. Two cylinders have the same volume. The first cylinder has a diameter of 40 cm and a height of 120 cm. The second cylinder has a diameter of 32 cm. What is the height of the second cylinder to the nearest tenth?
- b. A cardboard container has the shape of a right triangular prism. Inside the container is a cylindrical hole. Find the volume of cardboard needed to make the container to the nearest tenth.

$V = 150720 \text{ cm}^3$

$\rightarrow 187.5 \text{ cm}$



$V_T = 0.4032 \text{ m}^3$

$V_C = 0.1504531 \text{ m}^3$

Cardboard Volume = 0.2527469 m^3

- c. A company uses shipping crates with dimensions 4 m x 4 m x 8 m. They need to ship 35 000 boxes with dimensions 11 cm x 11 cm x 21 cm. Will they fit into one crate?

$V_{\text{CRATE}} = 128 \text{ m}^3$

$V_{\text{Box}} = 0.002541 \text{ m}^3$

$V_{35000} = 88.935 \text{ m}^3$

They will fit into the crate.

Questions to Review

- Page 230 # 3 - 6
 250 # 7 - 15
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 260 # 11 - 17, 19, 20, 22

7.2 Volume of a Prism

Volume Assignment 1

- Page 265 # 4 - 14
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Volume Assignment 2

Volume Test