

C4 Volume

Note Title

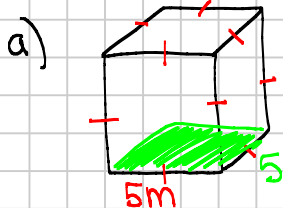
Formulas are always found
(area of base) x height

06/05/2013

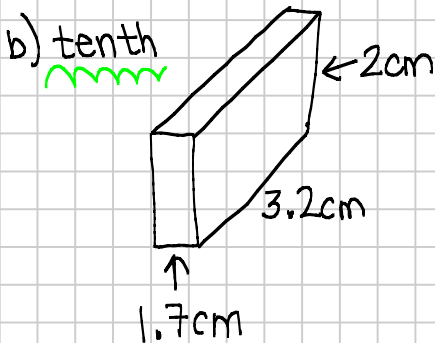
how much it can hold.

Examples

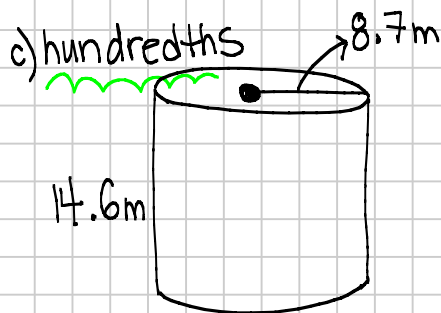
1. Find the volume of:



$$\text{cube Vol} = LWH$$
$$(\underset{w}{5m})(\underset{w}{5m})(\underset{h}{5m}) = \boxed{125m^3}$$



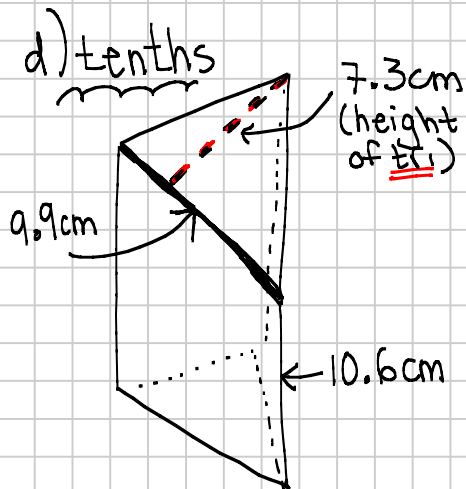
$$\text{rectangular prism Vol} = LWH$$
$$(3.2cm)(1.7cm)(2cm)$$
$$= 10.88 = \boxed{10.9cm^3}$$



$$\text{Cylinder Vol} = (\pi r^2) H$$
$$\pi (8.7m)^2 (14.6m)$$

(means $\pi (8.7)(8.7)(14.6)$)

$$= 3,471.69236 = \boxed{3,471.69m^3}$$

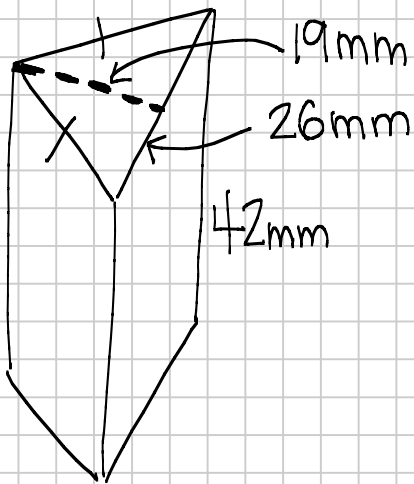


$$\text{triangular prism Vol} = (0.5bh)H$$

of triangle of object

$$0.5 (9.9cm)(7.3cm)(10.6cm)$$
$$= 383.031 = \boxed{383.0cm^3}$$

e) tenth

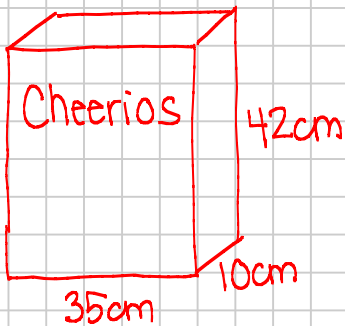


triangular prism $Vol = (0.5bh)H$

$$0.5(26\text{mm})(19\text{mm})(42\text{mm})$$
$$= 10,374 = \boxed{10,374.0\text{mm}^3}$$

2. You opened a new box of Cheerios and found that it was only $\frac{3}{4}$ full. Its dimensions are 35cm by 10cm by 42cm.

- a) How much would it hold if it was completely full?
b) How much was missing?



a) Rectangular Prism $Vol = LWH$

$$(35\text{cm})(10\text{cm})(42\text{cm})$$
$$= \boxed{14,700\text{cm}^3}$$

b) $\frac{3}{4}$ is there, so $\frac{1}{4}$ is missing.

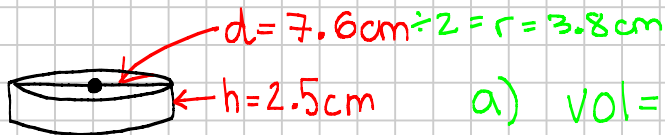
$$14,700\text{cm}^3 \times \frac{1}{4}$$
$$1 \div 4$$

$$14,700 \times 0.25 =$$
$$= \boxed{3,675\text{cm}^3}$$

3. A hockey puck is made of solid rubber.

a) What volume of rubber is needed to make one puck? (tenths)

b) If a pack of 3 pucks costs \$14.99, then how much does it cost for cm^3 ?



$$\text{a) } \text{Vol} = \pi (3.8)^2 (2.5)$$

$$= 113.411 = \boxed{113.4 \text{ cm}^3}$$

$$\text{b) } 113.4 \text{ cm}^3 \times 3 = 340.2 \text{ cm}^3$$

$$\$14.99 \div 340.2 \text{ cm}^3 = 0.0440623$$

$$= \boxed{\$0.05 / \text{cm}^3}$$

or $5¢ / \text{cm}^3$