M8 4.5 and 4.6 Volume of a Prism

Name _____

Blk _____

Review

Surface Area : the area of all the surfaces

Volume : the total space occupied by an object (inside & out)

Regular Polyhedron : made of all congruent (same) bases & faces

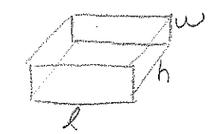
: only 5 in the world

↳ Platonic solid

Right Polyhedron : has congruent bases

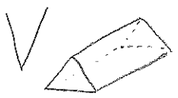
New

Calculating Volume



V  = area of base · h = $l \cdot w \cdot h$

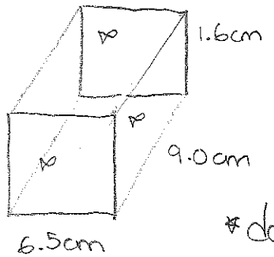
$l \cdot w$

V  = area of base · ℓ

$= \frac{b \cdot h}{2}$ or $\frac{1}{2} \cdot b \cdot h = \frac{b \cdot h}{2} \cdot \ell$ or $\frac{1}{2} \cdot b \cdot h \cdot \ell$

→ it is just calculating the area of the base multiplied by the height (length)

Ex 1: Calculate the Volume of a fish tank.



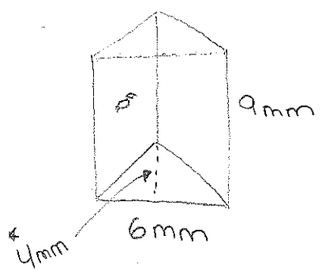
V  $= \overbrace{l \cdot w}^{\text{area of base}} \cdot h$

$= 9.0 \times 1.6 \times 6.5 = \boxed{93.6\ cm^3}$

$cm \cdot cm \cdot cm$

doesn't matter which one you label as l or w or h

Ex 2: Find the volume of the tent.



V  $= \overbrace{\frac{1}{2} \cdot b \cdot h}^{\text{area of base}} \cdot l$

$b = 6$
$*h = 4$
$l = 9$

$= \frac{1}{2} \cdot 6 \cdot 4 \cdot 9$

$= 3 \cdot 4 \cdot 9$

$= 12 \cdot 9$

$= (10 \cdot 9) + (2 \cdot 9)$

$= 90 + 18 = \boxed{108\ mm^3}$

HW: 4.5 → #7
4.6 → #5
7.7 → 7.9 (booklet)