VOLUME OF A RIGHT PRISM

V = Bh where B is the area of the base
& h is the height of the prism

Volume has cubic units

Example 1

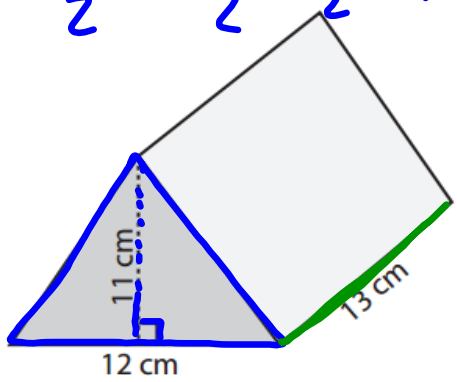
Find the volume of the right triangular prism.

$V = Bh$

$B = \frac{b \cdot h}{2} = \frac{12 \cdot 11}{2} = \frac{132}{2} = 66$

$V = (66)(13)$

$V = 858 \text{ cm}^3$



Example 2

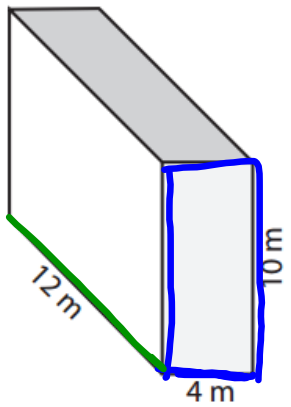
Find the volume of the rectangular prism.

$V = Bh$

$B = b \cdot h = 4 \cdot 10 = 40$

$V = (40)(12)$

$V = 480 \text{ m}^3$



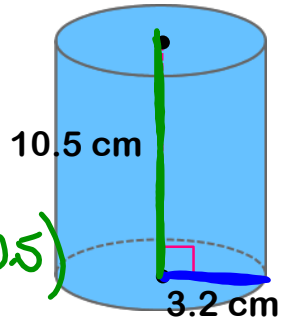
VOLUME OF A RIGHT CYLINDER

$V = \pi r^2 h$ where h is the height of the ~~prism~~ cylinder

↖ radius of circle

Example 3

Find the volume of the right cylinder.



$V = \pi r^2 h$

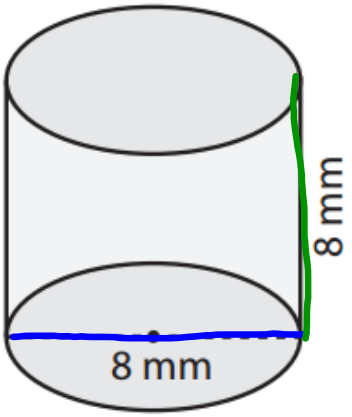
$V = (3.14)(3.2)^2(10.5)$

$V = (3.14)(10.24)(10.5)$

$V = 337.6128\ cm^3$

Example 4

Find the volume of the right cylinder.



$V = \pi r^2 h$

$V = (3.14)(4)^2(8)$

$V = (3.14)(16)(8)$

$V = 401.92\ mm^3$

$r = \frac{8}{2} = 4$

VOLUME OF A RIGHT CIRCULAR CONE

$V = \frac{1}{3}Bh$ ($B = \pi r^2$) $\Rightarrow$ $V = \frac{1}{3}\pi r^2 h$

VOLUME OF A RIGHT PYRAMID

$V = \frac{1}{3}Bh$

Example 5

Find the volume of a right circular cone with a radius of 5 centimeters and a height of 9 centimeters.

$V = \frac{1}{3}\pi r^2 h$

$V = \frac{1}{3}(3.14)(5)^2(9)$

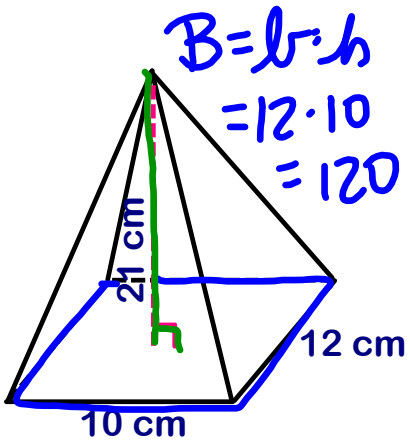
$V = \frac{1}{3}(3.14)(25)(9)$

$V = \frac{1}{3}(706.5)$

$V = 235.5\ cm^3$

Example 6

Find the volume of the solid.



$B = b \cdot h$

$= 12 \cdot 10$

$= 120$

$V = \frac{1}{3}Bh$

$V = \frac{1}{3}(120)(21)$

$V = \frac{1}{3}(2520) = 840\ cm^3$