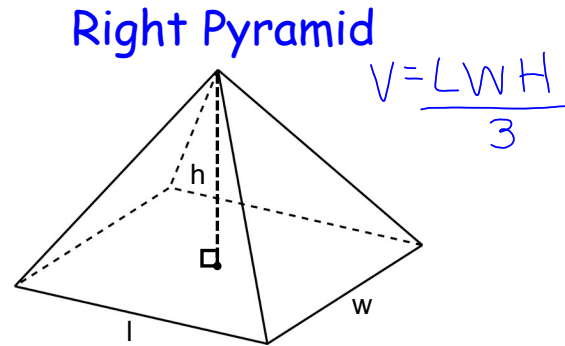
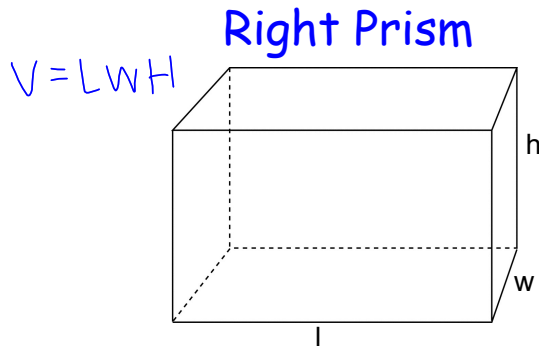


Volumes of Right Pyramids and Cones

Volume = the amount of space an object occupies

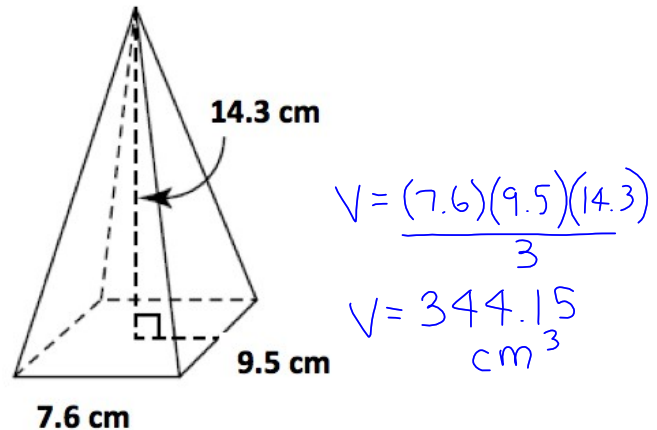
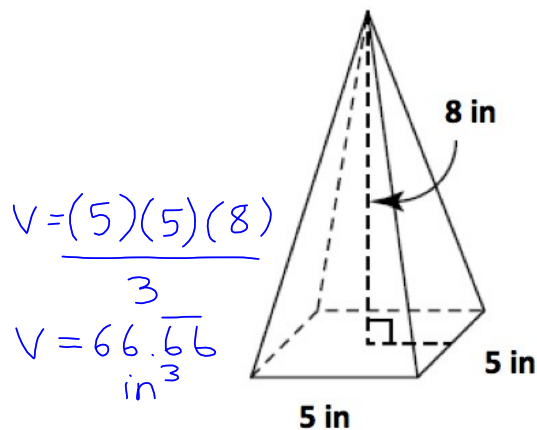


** Always use the **height** of an object to measure volume

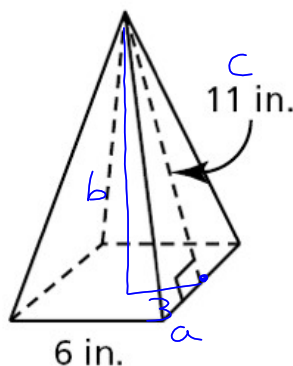
Ex. 1 Determine the volume of each right pyramid:

a) square pyramid

b) rectangular pyramid



Ex. 2 Calculate the volume of the right square pyramid:



$$b^2 = c^2 - a^2$$

$$b = \sqrt{11^2 - 6^2}$$

$$b = \sqrt{112}$$

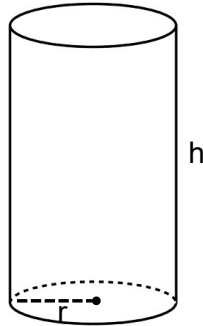
$$b = 10.58$$

$$V = \frac{(6)(6)(10.58)}{3}$$

$$= 126.96 \text{ in}^3$$

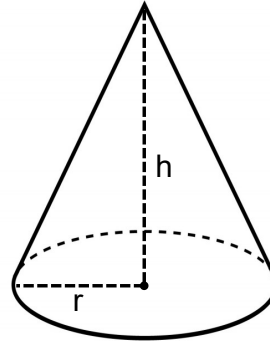
Right Cylinder

$$V = \pi r^2 h$$



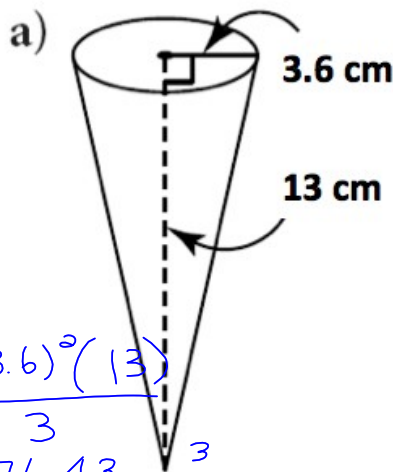
Right Cone

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

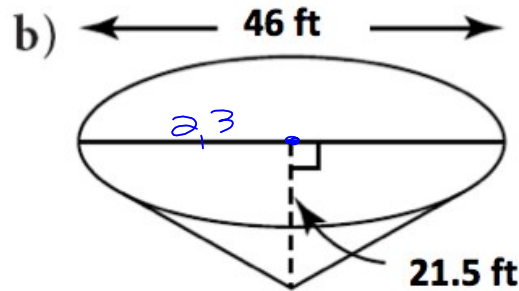


** Always use the **height** of an object to measure volume

Ex. 3 Find the volume of each of the following right cones:



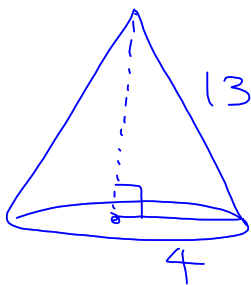
$$V = \frac{\pi (3.6)^2 (13)}{3}$$
$$V = 176.43 \text{ cm}^3$$



$$V = \frac{\pi (23)^2 (21.5)}{3}$$
$$V = 11,910.3 \text{ ft}^3$$

Ex 4.

Determine the volume of a cone with slant height 13mm and diameter 8 mm to the nearest cubic metre.



$$13^2 - 4^2 = b^2$$
$$\sqrt{169 - 16} = b$$
$$b = 12.37$$
$$V = \frac{\pi (4)^2 (12.37)}{3}$$
$$V = 207.26 \text{ mm}^3$$

QUIZ
Monday
SA → Pyramids
+ Cones

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#4-12