



11-5 Solve It!



SOLVE IT!

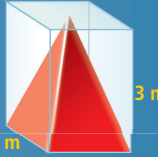
Getting Ready!

Look for a pattern in the volumes of the prism and pyramid pairs below. Use the pattern to find the volume of a pyramid with a base 2 ft by 3 ft and height 5 ft. Explain your reasoning.




1 ft
1 ft
1 ft

Pyramid volume = $\frac{1}{3}$ ft³




2 m
2 m
3 m

Pyramid volume = 4 m³




1 cm
2 cm
3 cm

Pyramid volume = 2 cm³




1 in.
1 in.
3 in.

Pyramid volume = 1 in.³



2 m
2 m
3 m

Pyramid volume = 4 m³



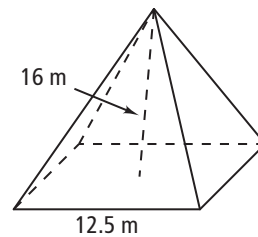
6 m
3 m
1 m

Pyramid volume = 6 m³

Not to scale

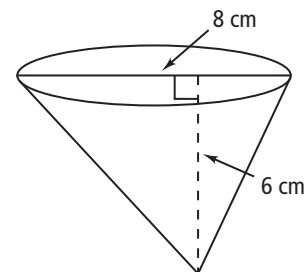
11-5 Lesson Quiz

1. What is the volume of a square pyramid with sides that are 12.5 m long and a height of 16 m?



2. What is the volume of a traffic cone that has a height of 2.4 ft and a diameter of 1.25 feet?

3. Do you UNDERSTAND? What is the volume of the oblique cone? Give your answer in terms of π .



Answers

Solve It!

Pattern: From the examples shown, the pyramids and a prism have the same base and the same height, and the volume of each pyramid is one-third the volume

of its corresponding prism. Based on this pattern, the volume of the pyramid that fits in a prism with base 2 ft by 3 ft with height 5 ft will be $\frac{1}{3}(30)$ or 10 ft³.

Lesson Quiz

1. $833\frac{1}{3}$ m³
2. about 1 ft³
3. 32π cm³