REVIEW: Volumes of Pyramids

Name _____

Key Concept and Vocabulary
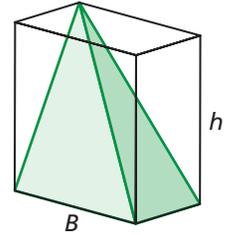
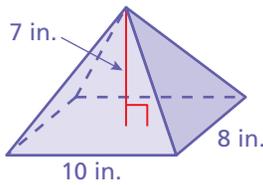height, h

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

Volume

area of base, B
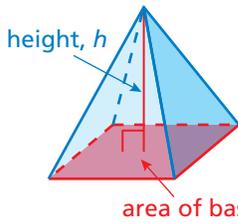
Visual Model

The volume of a pyramid is *one-third* the volume of the prism that has the same base and height.
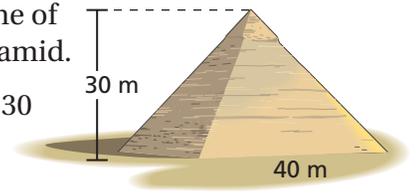
h

B

Skill Example

1.

7 in.

8 in.

10 in.

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

$$= \frac{1}{3} \cdot (8 \cdot 10) \cdot 7$$

$$= \frac{560}{3}$$

$$= 186\frac{2}{3} \text{ in.}^3$$

Application Example

2. Find the volume of the square pyramid.

30 m

40 m

$$V = \frac{1}{3} \cdot (40^2) \cdot 30$$

$$= 16,000 \text{ m}^3$$

⋰ The volume is 16,000 cubic meters.

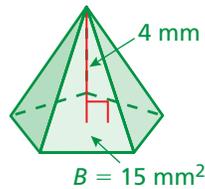# PRACTICE MAKES *PURR*-FECT™

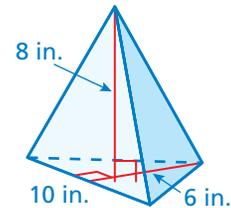*Check your answers at BigIdeasMath.com.*

Find the volume of the pyramid.

3.

2 ft

2 ft

1 ft

$V = $ _____

4.

4 mm

$B = 15 \text{ mm}^2$

$V = $ _____

5.

8 in.

10 in.

6 in.

$V = $ _____

6.

4 cm

5 cm

3 cm

$V = $ _____

7.

7 ft

8 ft

6 ft

$V = $ _____

8.

15 mm

14 mm

20 mm

$V = $ _____
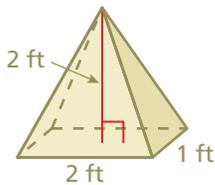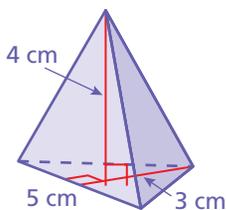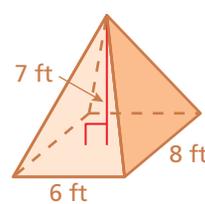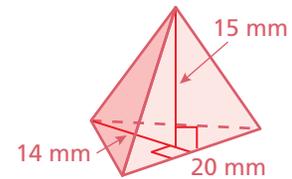
9. PYRAMID The pyramid has a volume of 2000 cubic feet. Find a set of possible dimensions for the pyramid.

h

w

ℓ

$w = $ _____, $\ell = $ _____, $h = $ _____

Topic 13.3