Chapter 11
Circumference, Area, and Volume
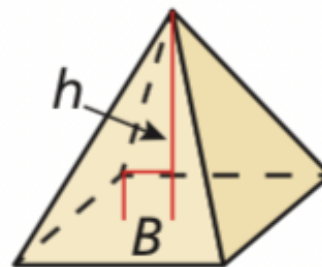
11.6 Volumes of Pyramids

Volume of a Pyramid
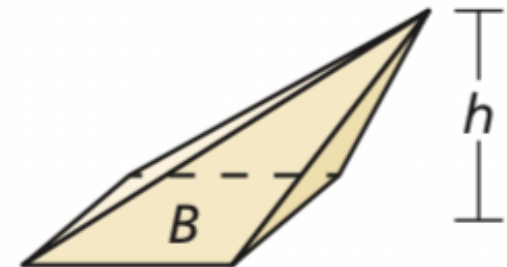
Volume of a Pyramid

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

Regular and oblique pyramids have the same height and the same cross-sectional area at every level, then Cavalieri's Principle says they have the same volume.

Regular Pyramid

Oblique Pyramid

h

B

h

B

$$V_{Right} = V_{Oblique}$$

11.6 Volumes of Pyramids

Volume of a Pyramid

Example

Khafre's Pyramid had a height of about 144 meters and a volume of about 2,218,800 cubic meters. Find the side length of the square base.
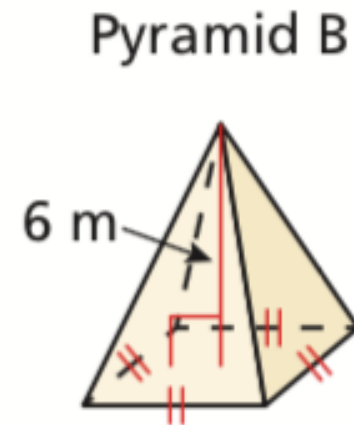
11.6 Volumes of Pyramids

Similar Solids

Example

Pyramids A and B are similar.

a) What is the scale factor?

b) What is the volume of pyramid B?

Pyramid A

8 m

$V = 96$ m³

Pyramid B

6 m

11.6 Volumes of Pyramids

Volume of Composite Solid

Example

Compute the volume of the composite figure.