12.5 Volumes of Pyramids and Cones

- **_Pyramid:_**
  - Volume:

$$V = \frac{1}{3} B \cdot h$$

height of pyramid

area of base
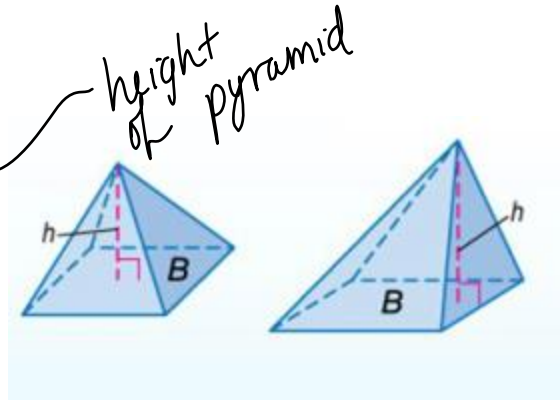
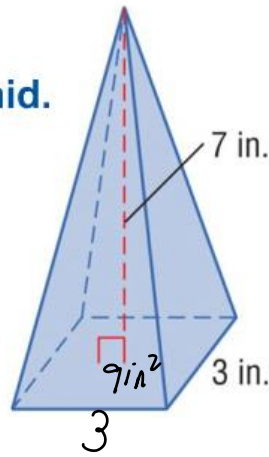**EXAMPLE 1** **Volume of a Pyramid**

Find the volume of the square pyramid.

7 in.

3 in.

$9\,in^2$

3

$$\frac{1}{3} \left(\frac{9^{in^2}}{} \right) 7 \cdot in$$

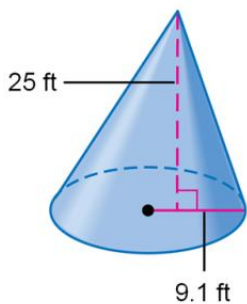$$\boxed{21\ in^3}$$

- **_Cone:_**
  - Volume:

$$V = \frac{1}{3} \pi r^2 \cdot h$$
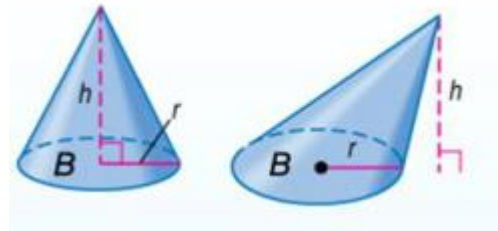
Find the volume of the cones to the nearest tenth.

25 ft

9.1 ft

$$V = \frac{1}{3} \pi \cdot 9.1^2 \cdot 25$$

$$2167.96$$

$$\boxed{2168.0\ ft^3}$$

5 in.

12 in.
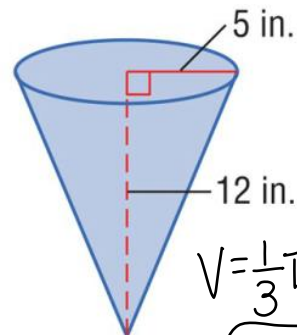
$$V = \frac{1}{3} \pi \cdot 5^2 \cdot 12$$

$$\boxed{314.2\ in^3}$$

SCULPTURE At the top of a stone tower is a pyramidion in the shape of a square pyramid. This pyramid has a height of 52.5 centimeters and the base edges are 36 centimeters. What is the volume of the pyramidion? Round to the nearest tenth.

$36 \cdot 36 =$
1296

52,5 cm

36cm

36cm

$V = \frac{1}{3}(1296) \cdot 52.5$

$V = 22680 \, cm^3$