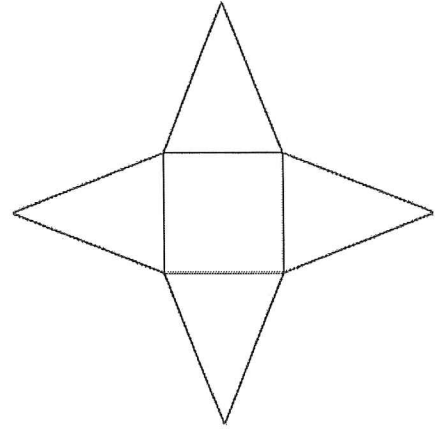
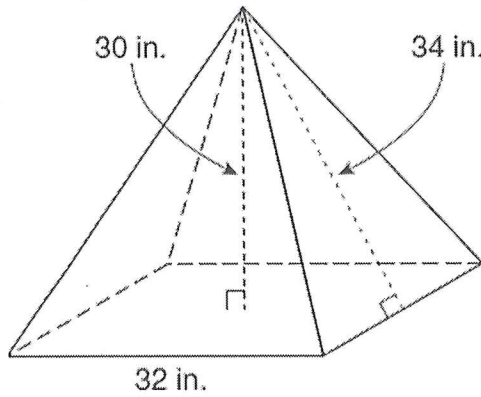
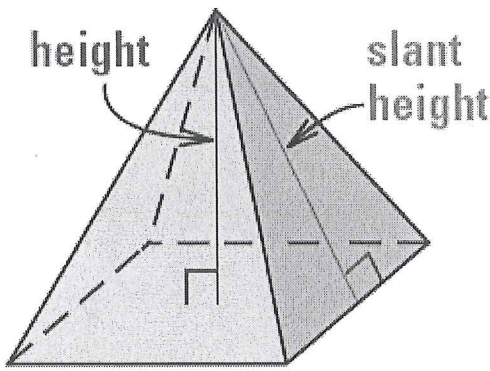


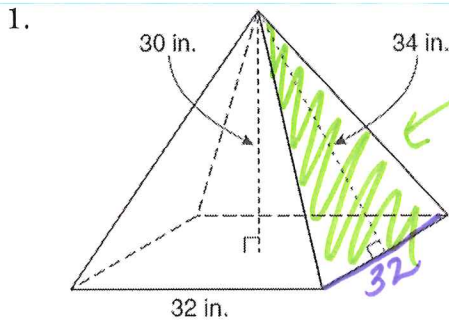
Key

# Basic Surface Area and Volume of Pyramids Notes



<p><u>Surface Area:</u> Add up all of the triangular faces and the base!</p>	<p><u>Lateral Area:</u> Add up all of the triangular faces</p>	<p><u>Volume:</u> <math>V = \frac{1}{3} (\text{area of base}) \times H</math> H = Height perpendicular to the base.</p>
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Find the volume and surface area of the square pyramid. Round to the nearest thousandth.



Area of the BASE:  
 $A_B = 32 \times 32$  40

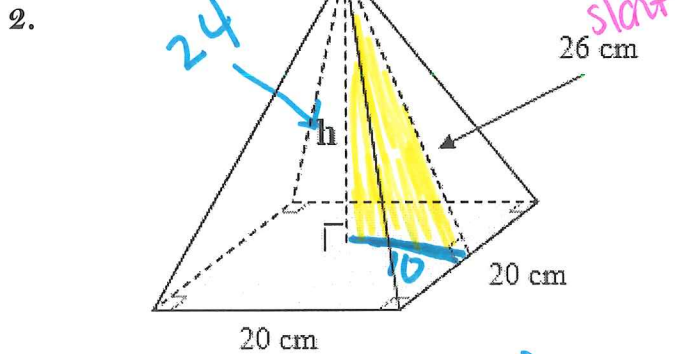
$V = \frac{1}{3} (32 \cdot 32) 30$

$V = 10240 \text{ in}^3$

$SA = 32 \times 32$  ✓

$+ 4 \left( \frac{1}{2} 32 \cdot 34 \right)$

$SA = 3200 \text{ in}^2$



$SA = 20 \times 20$

$+ 4 \left( \frac{1}{2} 20 \cdot 26 \right)$

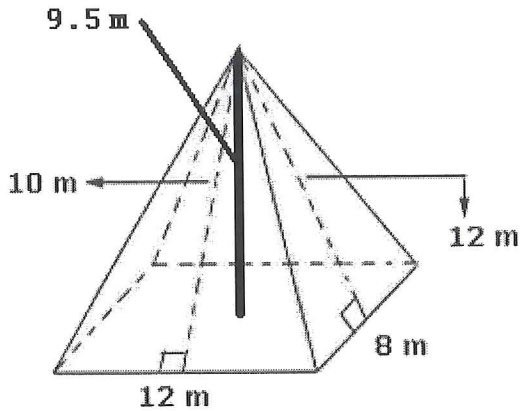
$SA = 1440 \text{ cm}^2$

$V = \frac{1}{3} (20 \cdot 20) 24$

$V = 3200 \text{ cm}^3$

$h^2 + 10^2 = 26^2$   
 $h = \sqrt{576}$   
 $h = 24$

3. Find the volume and surface area of the rectangular pyramid.



Base Rectangle  
 $A_B = 12 \times 8$

$$V = \frac{1}{3}(12 \times 8) \cdot 9.5$$

$$V = 304 \text{ m}^3$$

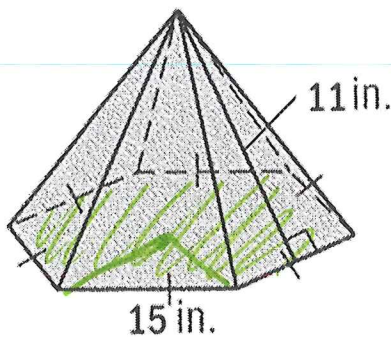
$$SA = 12 \cdot 8$$

$$+ 2\left(\frac{1}{2} 8 \cdot 12\right)$$

$$+ 2\left(\frac{1}{2} 12 \cdot 10\right)$$

$$SA = 312 \text{ m}^2$$

4. Find the surface area.



Area of base

$$6 \cdot \frac{1}{2} 15 \cdot 11 \rightarrow 495$$

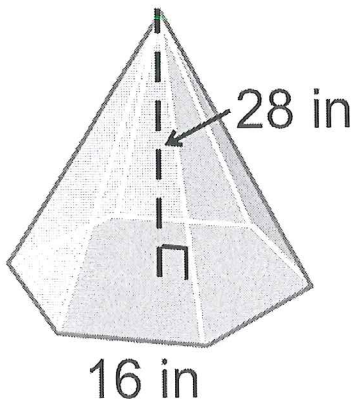
$$+ 6 \cdot \frac{1}{2} 15 \cdot 7.5\sqrt{3} \rightarrow 337.5\sqrt{3}$$

$$SA = 495 + 337.5\sqrt{3} \text{ in}^2$$

$$\approx 1079.567 \text{ in}^2$$

$$B = 6 \cdot \frac{1}{2} 15 \cdot 7.5\sqrt{3}$$

5. Find the volume.



area of Base

$$6 \cdot \frac{1}{2} 16 \cdot 8\sqrt{3} = B$$

$$V = \frac{1}{3} (6 \cdot \frac{1}{2} 16 \cdot 8\sqrt{3}) \cdot 28$$

$$V = 3584\sqrt{3} \text{ in}^3$$

$$\approx 6207.670 \text{ in}^3$$