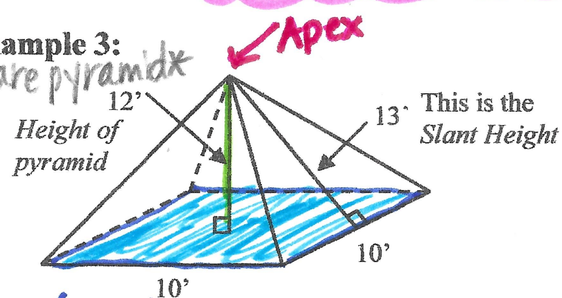
VOLUME AND TOTAL SURFACE AREA OF PYRAMIDS & CONES

A pyramid has a single ___base___, and three or more ___triangular___ faces that meet at a single point called the apex. A cone, has a ___circular___ base, and can be thought of to have an ___infinite___ number of triangular faces meeting at the apex.

$$\boxed{V = \frac{1}{3}(\text{Base Area}) \cdot \text{Height}}$$

Example 3:
square pyramid



$V = \frac{1}{3}(\square_{10}^{10}) \cdot 12$

$= \frac{1}{3}(10 \cdot 10) \cdot 12$

$= \frac{1}{3} \cdot 100 \cdot 12$

$V = 400 \text{ ft}^3$

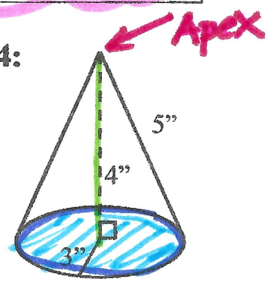
TSA = $10\square_{10} + 4(\triangle)$ (13, 10)

$= (10 \cdot 10) + 4(\frac{1}{2} 10 \cdot 13)$

$= 100 + 4(65)$

$TSA = 360 \text{ ft}^2$

Example 4:
cone



$V = \frac{1}{3} \; \bigcirc_3 \cdot 4$

$= \frac{1}{3}(\pi \cdot 3^2) \cdot 4$

$= \frac{1}{3}(9\pi) \cdot 4$

$V = 12\pi \text{ in}^3$ or $V \approx 37.70 \text{ in}^3$

****We are not going to worry about the TSA of cones at this point!!!**