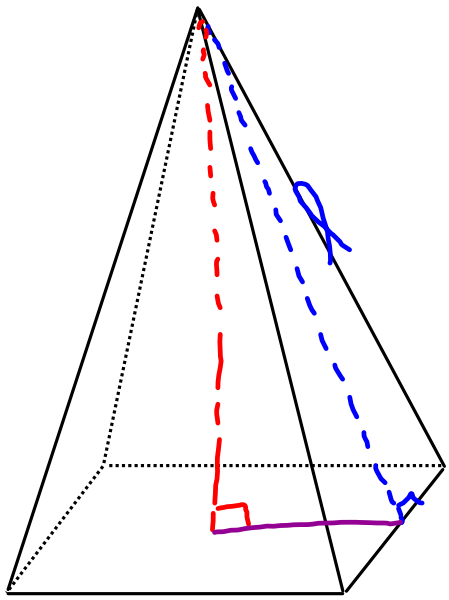
Pyramid

SA = (Area of Base) + ($\frac{1}{2}$ x Perimeter of Base x slant height)

$$= B + \frac{1}{2} P\ell$$

$V = \frac{1}{3}$ x Area of Base x height

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



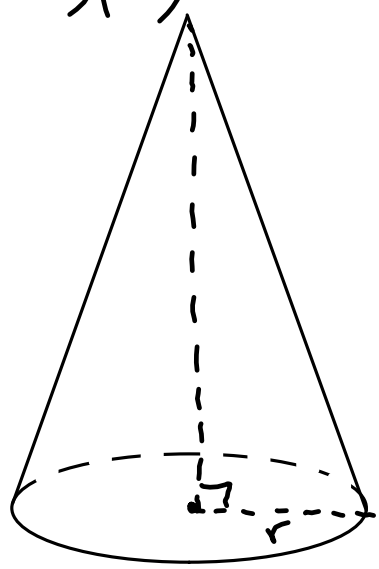
Cone

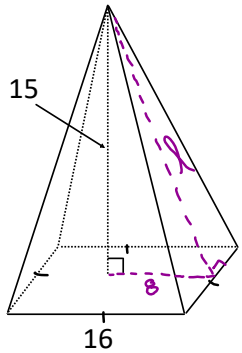
SA = (Area of Base) + ($\frac{1}{2}$ x Circumference of Base x Slant Height)

$$= B + \frac{1}{2} C\ell = \pi r^2 + \frac{1}{2}(2\pi r)(\ell) = \pi r^2 + \pi r \ell$$

$V = \frac{1}{3}$ x Area of Base x height

$$= \frac{1}{3} \pi r^2 h$$





Slant Height

$8^2+15^2=\ell^2$

$64+225=\ell^2$

$\ell=17$

$SA = B + \frac{1}{2}P\cdot\ell$

$= (16\cdot16) + \frac{1}{2}(4\cdot16)\cdot17$

$= 256 + (32)(17)$

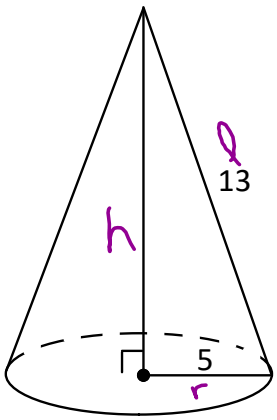
$= 256 + 544$

$\boxed{= 800\ u^2}$

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

$= \frac{1}{3}(256)\cdot15$

$\boxed{= 1280\ u^3}$



Height

$h^2+5^2=13^2$

$h=12$

$SA = B + \frac{1}{2}C\ell$

$= \pi r^2 + \frac{1}{2}(2\pi r)\ell$

$= \pi 5^2 + \frac{1}{2}(2\pi 5)13$

$= 25\pi + 65\pi$

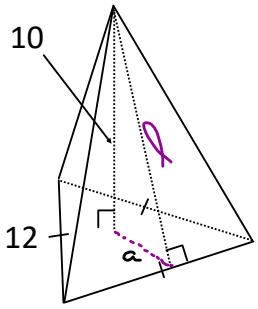
$\boxed{= 90\pi\ u^2}$

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

$= \frac{1}{3}(\pi r^2)h$

$= \frac{1}{3}\pi 5^2\cdot12$

$\boxed{= 100\pi\ u^3}$

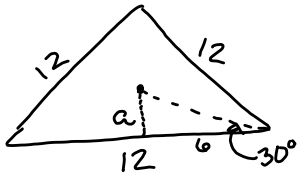


Area Base

$B = \frac{1}{4}s^2\sqrt{3}$

$= \frac{1}{4}12^2\sqrt{3}$

$B = 36\sqrt{3}$



$a = \frac{6}{\sqrt{3}} = 2\sqrt{3}$

Slant height

$10^2 + (2\sqrt{3})^2 = \ell^2$

$100 + 12 = \ell^2$

$\sqrt{112} = \ell$

$\ell = 4\sqrt{7}$

$SA = B + \frac{1}{2}P \cdot \ell$

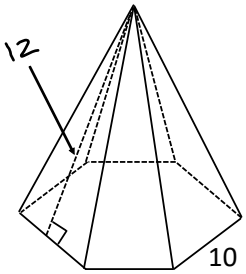
$= 36\sqrt{3} + \frac{1}{2}(36)(4\sqrt{7})$

$= 36\sqrt{3} + 72\sqrt{7}\ u^2$

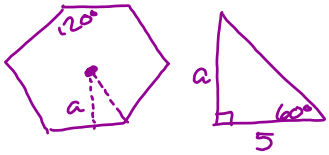
$V = \frac{1}{3}B \cdot h$

$= \frac{1}{3}(36\sqrt{3})(10)$

$= 120\sqrt{3}\ u^3$



Area of Base



$a = 5\sqrt{3}$

$B = \frac{1}{2}(5\sqrt{3})(60)$

$= 150\sqrt{3}$

height

$(5\sqrt{3})^2 + h^2 = 12^2$

$75 + h^2 = 144$

$h^2 = 69$

$h = \sqrt{69}$

$SA = B + \frac{1}{2}P\ell$

$= 150\sqrt{3} + \frac{1}{2}(60) \cdot 12$

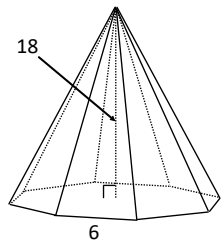
$= 150\sqrt{3} + 360\ u^2$

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

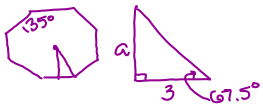
$= \frac{1}{3}(150\sqrt{3})\sqrt{69}$

$= 50\sqrt{3 \cdot 3 \cdot 23}$

$= 150\sqrt{23}\ u^3$



Area Base



$\tan 67.5° = \frac{a}{3}$

$a = 3\tan 67.5°$

$B = \frac{1}{2}P \cdot a$

$= \frac{1}{2}(48)(3\tan 67.5°)$

$B = 72\tan 67.5°$

Slant Height

$18^2 + (3\tan 67.5°)^2 = l^2$

$324 + 9\tan^2 67.5° = l^2$

$l = \sqrt{324 + 9\tan^2 67.5°}$

$SA = B + \frac{1}{2}P \cdot l$

$= 72\tan 67.5° + \frac{1}{2}(48)(\sqrt{324 + 9\tan^2 67.5°}$

$\boxed{\approx 639.483\ u^2}$

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

$= \frac{1}{3}(72\tan 67.5°) \cdot 18$

$= 432\tan 67.5°$

$\boxed{\approx 1042.94\ u^3}$