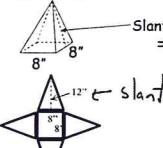
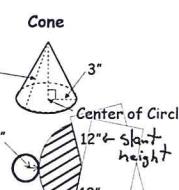
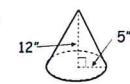


Digits Lesson 13-3

Surface Area of Pyramids and Cones

4/23/2019

Goal: I will be able to <u>find the surface area of pyramids and cones.</u>	
Tool Bag Formulas, equations, Vocabulary, etc.	
 To find surface area - "lay" it flat	Here's How... Notes & Examples
Regular Pyramid  Surface Area $\begin{aligned} &= \text{Base Area} + \text{Triangle Areas} \\ &= 8 \cdot 8 + 4\left(\frac{1}{2} \cdot 8 \cdot 12\right) \\ &= 64 + 4(48) \\ &= 64 + 192 \\ &= 256 \text{ in}^2 \end{aligned}$	Cone  $\begin{aligned} &= \text{Base Area} + \text{Lateral Areas} \\ &= \pi \cdot r^2 + \pi \cdot r \cdot \text{slant height} \\ &= \pi \cdot 3^2 + \pi \cdot 3 \cdot 12 \\ &= 9\pi + 36\pi \\ &= 45\pi \\ &\approx 141 \text{ in}^2 \end{aligned}$

You Try  a) $\begin{aligned} S &= \text{Base} + 4 \text{ triangles} \\ &= 5 \cdot 5 + 4\left(\frac{1}{2} \cdot 5 \cdot 8\right) \\ &= 25 + 4(40) \\ &= 25 + 160 \\ &= 185 \text{ ft}^2 \end{aligned}$	b) 
c) 	d) 

c)  $\begin{aligned} a^2 + b^2 &= c^2 \\ 12^2 + 5^2 &= c^2 \\ 144 + 25 &= c^2 \\ 169 &= c^2 \\ \boxed{13 = c} \end{aligned}$	d)  $\begin{aligned} S &= \text{bottom} + \text{side} \\ &= \text{circle} + \text{teepee} \\ &= \pi r^2 + \pi r s \\ &= \pi 5^2 + \pi 5 \cdot 13 \\ &\approx 25\pi + 65\pi \\ &= 90\pi \end{aligned}$
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