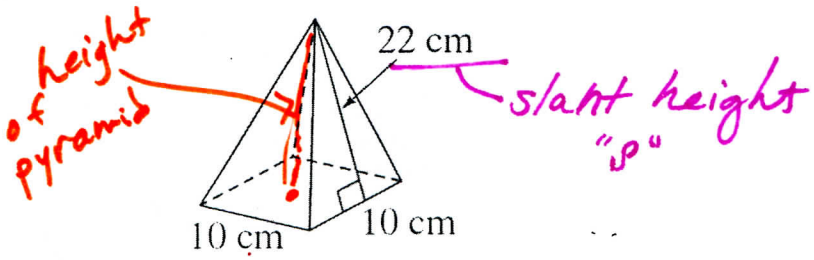
Name:_____Core_____

U11-4 INVESTIGATION
Exploring Surface Area of Square Pyramids



Using the pyramid above, sketch each face of the pyramid and label the dimensions of each face. Then find the area of each face.
numbers

Base	Side 1	Side 2	Side 3	Side 4
10, 10 $A = l \cdot w$ $10 \cdot 10$ Area: $100\ cm^2$	22, 10 $A = \frac{1}{2}bh$ $\frac{1}{2}\ 10 \cdot 22$ Area: $110\ cm^2$	Area: $110\ cm^2$	Area: $110\ cm^2$	Area: $110\ cm^2$

From this information, how could you find the surface area of the pyramid?

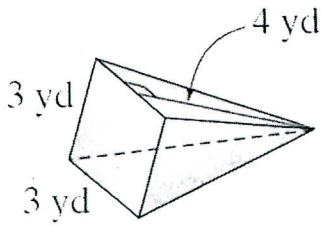
Sum of 5 faces: $100 + 110 + 110 + 110 + 110$

$100 + 110(4)$

What do you notice about all four sides of the pyramid?

Same – equal

Do you think there could be an easier way to find the surface area rather than finding all five areas and adding them together? Try your short cut on this pyramid.



Base square + 4 Δ's

$l \cdot w + (\frac{1}{2}bh)4$

$3 \cdot 3 + (\frac{1}{2}3 \cdot 4) \cdot 4$ faces

$9 + (6) \cdot 4$

$9 + 24 = \boxed{33\ yd^2}$

Would this method work if it was not a SQUARE PYRAMID? Why or why not?

Adapted from Prentice Hall Pre-Algebra Lesson 10-6