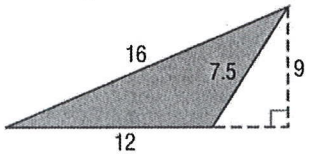
Name: Key. Date:

**Chapter 11 Do Now**

1. Jack needs to buy enough boards to make the frame of the triangular sandbox for his sons and enough sand to fill the box. If one board is 3 feet long and one bag of sand fills 9 square feet of the sandbox, how many boards and bags does Jack need to buy.




Perimeter
$P = 16 + 7.5 + 12 = 35.5$ ft

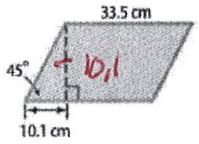
Area
$A = \frac{1}{2}(12)(9) = 54$ ft

Boards: $\frac{35.5}{3} = 11.83$

Bags: $\frac{54}{9} = 6$

So 12 boards and 6 bags

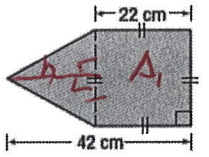
2. Find the area of the parallelogram.




$h = 10.1$
$b = 33.5$

$A = 10.1(33.5) = 338.35 cm^2$

3. Find the area of the composite figure. Round to the nearest tenth if necessary.




$h = 42 - 22$
$h = 20$
$b = 22$

$A_1$ = Rect. $A_2$ = Tri.

$A_1 = 22(22)$ $A_2 = \frac{1}{2}(22)(20)$

$A_1 = 484 cm^2$ $A_2 = 220$

$A_T = 484 + 220 = 704 cm^2$

4. Dave goes out to lunch to grab a slice of pizza where each pie is cut into 8 slices. Would Dave's hunger be better satisfied with one slice of pizza from a 12 inch pie or 2 slices from an 8 inch pie?

$x$ = central $\angle = \frac{360}{8} = 45$

12 inch

$A = \frac{45}{360}(\pi \cdot 6^2)$

$= \frac{1}{8}(36\pi)$

$A = 4.5\pi in^2$

1 slice of 12 in pie

8 inch * 2 slices

$A = \frac{45}{360}(\pi \cdot 4^2)(2)$

$= \frac{1}{8}(16\pi)(2)$

$A = 2\pi(2) = 4\pi in$

$4.5\pi < 4\pi$

5. If one diagonal is twice as long as the other in a rhombus and the area is 136 square feet. Then was are the lengths of the diagonals?

$d_1 = 2d_2$ & $A = 136$

$A = \frac{1}{2} d_1 d_2$

$136 = \frac{1}{2}(2d_2)(d_2)$

$\sqrt{136} = \sqrt{d_2^2}$

$11.67 = d_2$

$d_1 = 2(11.67)$

$d_1 = 23.34$ ft

$d_2 = 11.67$ ft