My Mistake.......

Math Concepts Problem Set 1   Name_____

Assigned Friday 9/6, due Friday 9/13

No Work Shown, No Credit Given   Period_____

The work for problems #1-#4 needs to be <u>attached</u> on *a separate piece of paper*.
1. Janelle wants to challenge you to a "Toothpick and Tiles" game. Using exactly four tiles, solve her challenges below. Justify your answers with pictures and labels.
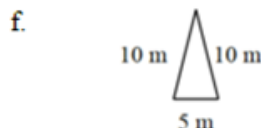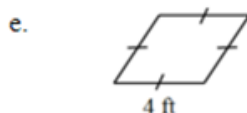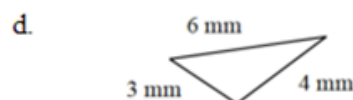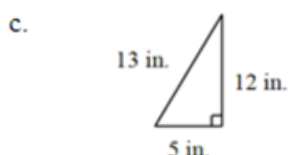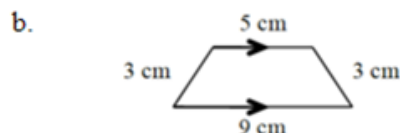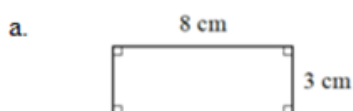 **a.** Create a tile pattern where the number of toothpicks is exactly double the number of tiles.

  b. Create a tile pattern where the number of toothpicks is more than double the number of tiles.

2. In the "Toothpick and Tiles" game, you looked at the number of square tiles and the number of toothpicks used to form shapes. The math words that describe the number of tiles and toothpicks are *area* and *perimeter*.
  a. Find the area and perimeter of the tile figure at right.   5 cm

Problems 7-#9 can be completed on this paper.
7. Find the perimeter of each figure below. The markings on part (b) mean that the lines are parallel. The markings on part (e) show that all sides are the same length. As you find each perimeter, be sure to show your work.

a.
8 cm
3 cm

b.
5 cm
3 cm   3 cm
9 cm

c.
13 in.
12 in.
5 in.

d.
6 mm
3 mm   4 mm

e.
4 ft

not #3

f.
10 m   10 m
5 m

8. For each shape drawn in problem #7, choose one of the labels below that best describes that shape. Be as specific as you can. Look up the definitions on your iPad for more information if you do not remember what one of the words describes.

     right triangle   scalene triangle   obtuse triangle

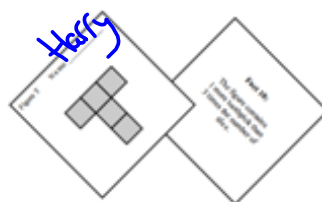   isosceles triangle   rhombus   rectangle

     square   trapezoid   hexagon

9/9

1-7. TOOTHPICKS AND TILES: TEAM CHALLENGE

Today you and your team members will work together in the "Toothpicks and Tiles" challenge. You each will have one card that shows a tile shape. There will be a fifth card to share as a team. Any extra cards should go in the center of your workspace so that everyone can see them.

Your Task: As a team, do the following:

- Each team member should *write his or her name* on one of the shape cards.

- Place any extra shape cards and all of the fact cards face up in the middle of the table so that everyone can see them.

- Work together to match each tile shape with one fact statement so that each fact has *only one* shape and each shape has *only one* fact.

- If you want to change the shape that matches a fact card, you *must convince the person whose name is on the card of the shape you want to change.* He or she is the only person who can touch that shape card.

- Once everyone in your team is convinced that each fact is paired with one shape, call your teacher over. Be prepared to justify your choices!

Area = Tiles
Perimeter = Toothpicks