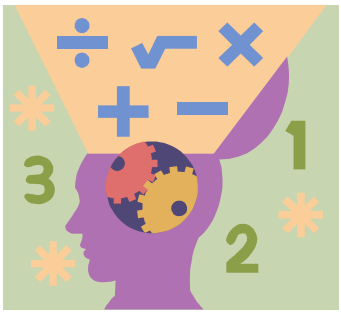
Algebra/Geometry Institute Summer 2010



Faculty Name: Norman Snerling

School: Clarksdale High School

Grade Level: Transition to Algebra

1 Teaching objective(s) Measurement 4 a. Solve real-world problems involving measurements.
Students will solve real-world problem involving perimeter and area of various figures.

2 Instructional Activities

1. Students will be divided into groups of four for group activity.
2. Teacher will introduce the formulas for perimeter and area.
3. Teacher will use transparencies and tile to model problems using various shapes (i.e. squares, rectangles etc).
4. Each group will be given twelve sticks that are 4 inches long.

5. Teacher will guide students through several practice problems. (i.e. see attachment 1)
6. Teacher will assign independent practice problems and walk around to observe students understanding of concepts. (i.e. see attachment 2)

7. Students will arrange the sticks into rectangular pizzas of different dimensions, then fill in the area of each with 1 in. paper squares (traced and cut out using the pattern provided) to determine how many small squares of pizza each arrangement will yield. Pizza sizes 24 in., 36in., and 48 in.
8. During this process, the students will make a sketch of each pizza they designed.
9. They will decide which pizza they would like to share among their group members if they were very hungry.

10. For homework, students will summarize what they learned from the pizza activity, define perimeter and area, complete worksheet and explain why think perimeter and area is important in today's society.

3 Materials and Resources

Overhead
Algebra Tiles
Transparencies
Calculator
Twelve toothpicks or popsicle stick (represented as 4in long each)
Color tiles to represent the number of pizza slices
Paper and pencil for recording the solutions.
Ruler
Formula sheet for homework

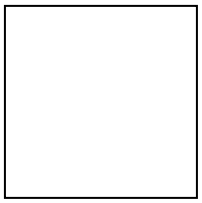
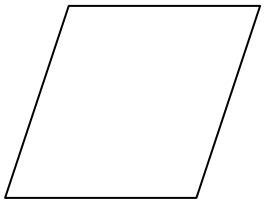
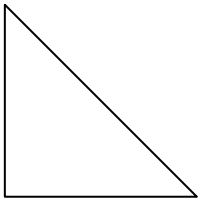
Resources:
KutaSoftware.com
http://kutasoftware.com/
Prentice Hall Mississippi Transition to Algebra—Pearson and Prentice Hall (2009) pages 79- 85.

4 Assessment

Students will be assessed by homework.
Each group will demonstrate their understanding by displaying one problem on overhead using tiles.
Students also will be assessed by their demonstration of individual problems at the board.

Attachment 1

Guided Practice: Teacher will model the following problems on board.

Figure 1	Figure 2	Figure 3
Length – 4m, Width-8m	Length -12in, Width- 8in	a= 8in, b= 12in, c= 16
Rectangle	Parallelogram	Triangle
		
Answer= 24	Answer= 40	Answer = 36

Perimeter Formulas: L= Length W= Width

Rectangle = 2L + 2W

Parallelogram= 2L + 2W

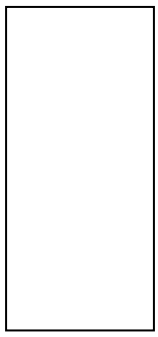
Triangles= a + b + c

Square= 4a

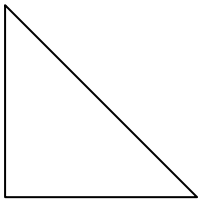
Attachment 2

Independent Practice

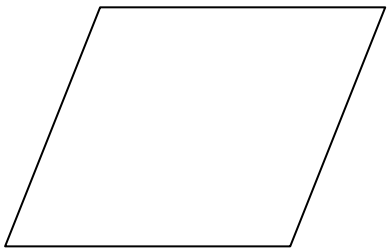
Find the perimeter of the following figures.



Length = 8 Width = 12. What is the perimeter?



The side of are 12, 8, and 8. What is the perimeter?



Length =4 Width=16. What is the perimeter?

Attachment 2

Independent Practice Key

Perimeter for figures:

Rectangle = 40

Triangle = 28

Parallelogram = 40

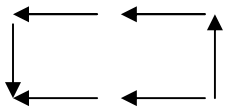
Group Activity- From Perimeter to Area

Design the following pizza using your popsicle sticks on top of the paper provided. Arrange the sticks into rectangular pizzas of different dimensions, and then fill in the area with the color tiles. Now determine how many color tiles each pizza will hold. Perimeters of pizza are 24 in., 36 in., and 48 in. Then decide which pizza yields the most squares. Popsicle sticks are 4 inches long each.

Pizza Key

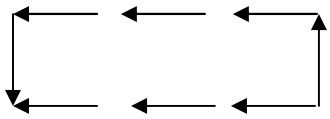
Popsicle stick = 4 in = ←——

Pizza with a Perimeter of 24 inches



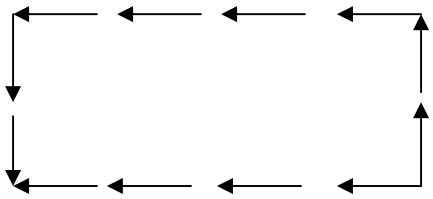
Total number of one inch squares to fill pizza = 32 squares

Pizza with a Perimeter of 32 inches



Total number of one inch squares to fill pizza = 48 squares

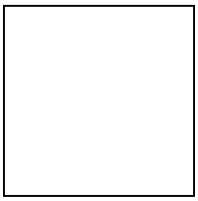
Pizza with a Perimeter of 48 inches



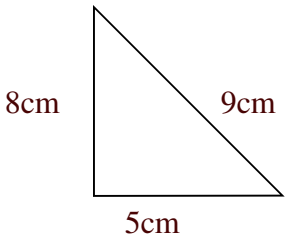
Total number of one inch squares to fill pizza = 128 squares

Homework Sheet Perimeter Answer Key

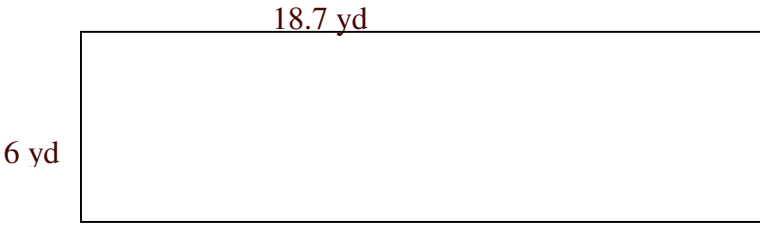
Find the Perimeter of the following figures.



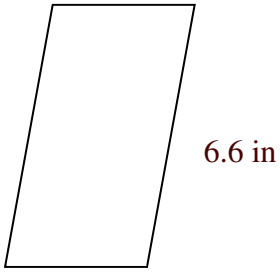
Answer 24in



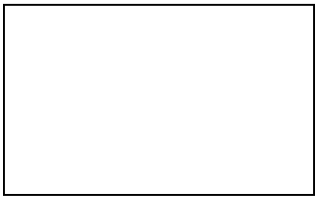
Answer 22 cm



Answer 49.4yd

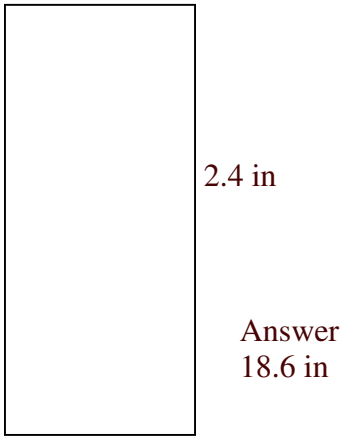


Answer 19.2 in

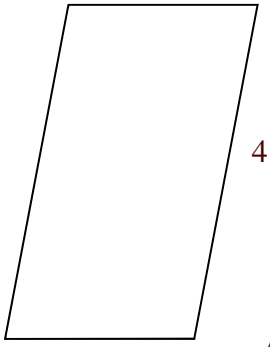


3 in

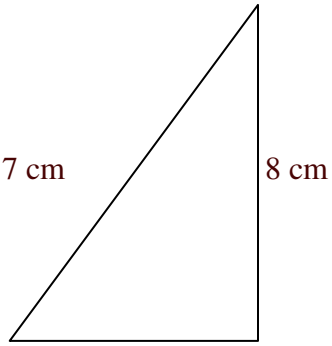
Answer 18 in



Answer
18.6 in



Answer 11yd



Answer 35 cm

Homework Sheet- Perimeter

Find the Perimeter of the following figures.