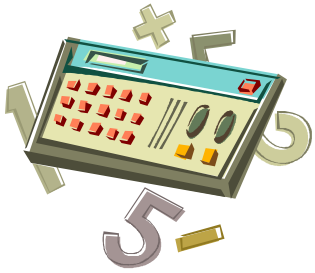
Algebra/Geometry Institute Summer 2004



Lesson Plan 3

Faculty Name: Janice Walker
School: Greenville-Weston
Greenville, MS
Grade Level: Algebra 1 (9)

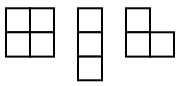
1 Teaching objective(s)

Students will find the area and perimeter of rectangular regions and compare different areas obtained using the same perimeter

2 Instructional Activities

I. Review students on how to find the area and perimeter of rectangular regions. Give example. Next pair students with a partner. Distribute to each pair 2 sheets of square dot paper that has the horizontal and vertical distance between each dot pair of dots 1 unit, a ruler, and one individual dry erase board with eraser, if available. (if individual dry erase boards are not available, students may use a sheet of paper for scratch work)

II. Each group will be given the task of drawing several regions with the same perimeter using only squares. They are to find the shape that produces the largest area using the perimeter given. Give example: given perimeter = 8. They may draw regions like this.



After experimenting with different shapes and finding the correct perimeter, they will draw all three on their first sheet of dot paper stating that the first one has the largest area. After all questions have been answered, each pair may begin working to find the largest area for regions of perimeter 12, then 20. They will use one sheet of dot paper for each set.

III. After each group has finished, one partner from each group will come forward to draw the figure they found to have the largest area for each perimeter. There will be many different versions of each. Discuss the fact that shapes don't have to be exactly the same in order for their areas and perimeters to be the same.

IV. Give each group two assignment sheets (see attachment) one for each partner. They will each divide the given regions into rectangular pieces (not all squares), find smaller areas, then find the total area by adding all smaller ones, and compare their answers correcting any mistakes. After all groups have finished we will go over the area of each shape. Have one partner from each group come demonstrate their divisions for each shape.

V. Give each student a sheet of dot paper and have them draw their own shape with perimeter 24 and find the area of their shape. After it is completed and checked, they may display it in a designated area of the room with those of the same areas being grouped together.

3 Materials and Resources

square dot paper, ruler, individual dry erase board with eraser(if available), Algebra 1 an Integrated Approach, D.C. Heath, copyright 1995

4 Assessment

observation-walk around checking the progress of each group
peer assessment-students will help each other (their partner) find mistakes
check student's work before they are allowed to display it

Attachment