Name(s)	Project Number
Alison L. Ren	**J1412**

Project Title

Spidrons

Abstract

Objectives/Goals

To find a mathematical relationship between the angles of different numbered spidron nests.

Methods/Materials

Methods:

1.Three spidron nests were constructed.

2.The valley fold angles from above and below the spidron were measured in the clockwise and counterclockwise direction resulting in 36 angle measurements

3.Counterclockwise top angles and clockwise below angles were averaged for the three different spidron nests

4.Data was analyzed for apparent relationships

Materials:

1.22"x22" Construction paper for building spidrons (4)

2.Scissors

3.Scotch tape

4.Protractor

Results

For the 4 spidron nest the average valley fold low angle was 90 degrees and an average valley fold high angle was 115 degrees.

Averages for the 6 spidron nest were 106 degrees and 139 degrees.

Averages for the 8 spidron nest were 106 and 146 degrees.

Averages for the 10 spidron nest were 111 degrees and 145 degrees.

Conclusions/Discussion

At first I constructed several test spidrons to determine the ease of constructing spidrons. After I constructed and measured the valley fold angles for the 4, 6 and 8 spidron nests I could see no visual relationship between the number of spidrons in the nest and the average angles. After entering the data into excel, my teacher helped me fit a polynomial trendline to the low angle, high angle, and overall average angle for the different spidron nests. In order to test the equation, I constructed a 10 spidron nest and compared the measured valley fold angles to the predicted valley fold angles. Sadly, all of the measured angle averages were at least 5% different from the predicted values. So at this point, my hypothesis is disproven, as there appears to be no relationship between the angles of various spidron nests.

Summary Statement

A study of the relationships between the angles of different spidron nests.

Help Received

N/A