

Recursive Sequences

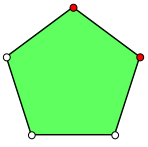


Figure 1

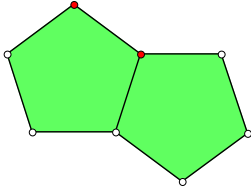


Figure 2

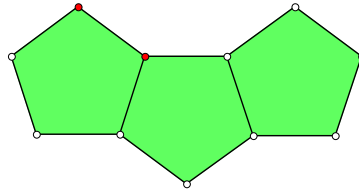


Figure 3

Consider the sequence of pentagons where each side equals 1 unit and the area of each pentagon is 1.73 square units.

Complete the table for five figures.

Figure Number	Perimeter	Number of Toothpicks	Area
1			
2			
3			
4			
5			

- Write a recursive routine for the perimeter.
- Write a recursive routine for the area of the pentagons.
- Write a recursive routine for the number of toothpicks.
- Find the perimeter of Figure 10.
- Which figure has a perimeter of 47?
- Which figure has an area of at least 34 square units.
- Find the number of toothpicks needed for Figure 12.
- Which figure contains 53 toothpicks?