Fibonacci Bunnies

Leonardo Pisano (1170-1250 AD) is better known by his nickname Fibonacci, which means “son of Bonacci”. He was born in Italy but raised in North Africa where his father was a diplomat. He travelled widely with his father and learned the Hindu-Arabic number system, which he included in his famous book *Liber Abaci* in 1202 AD.

Fibonacci is best known for his number sequence, based on an ideal birth rate of rabbits. The sequence goes on to infinity. This sequence does not have a formula, but can be described as a pattern.

1. Describe the pattern for finding the next number.

1, 1, 2, 3, 5, 8, 13, 21, 34, 55, …

2. What is the next number in the Fibonacci sequence above? _____

To learn more about Fibonacci numbers and where they are found in nature and other places, visit *http://www.maths.surrey.ac.uk/hosted-sites/R.Knott/Fibonacci/fibnat.html*

The Golden Ratio

The golden ratio is an **irrational number** (approximately 1.618), also known as the golden mean or golden section. It is found by taking successive ratios of consecutive Fibonacci numbers. The golden rectangle is often used in art and architecture to make the most pleasing proportions for faces, bodies, buildings, and shapes.

phi (pronounced “fee”) ϕ = 1.61803399…

> “Biologists, artists, musicians, historians, architects, psychologists, and even mystics have pondered and debated the basis of its ubiquity and appeal. In fact, it is probably fair to say that the Golden Ratio has inspired thinkers of all disciplines like no other number in the history of mathematics.” (Mario Livio, *The Golden Ratio: The Story of Phi, The World's Most Astonishing Number*, p.6)