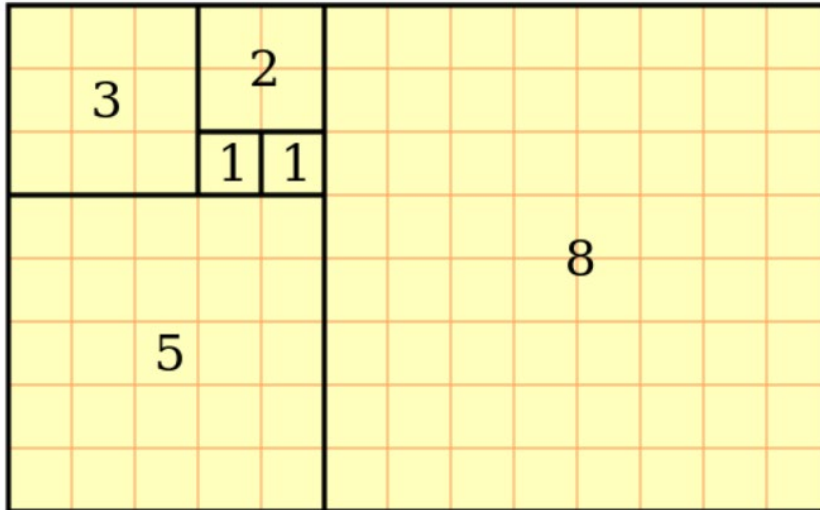


The Fibonacci Sequence

What are the next three numbers in this sequence of numbers?

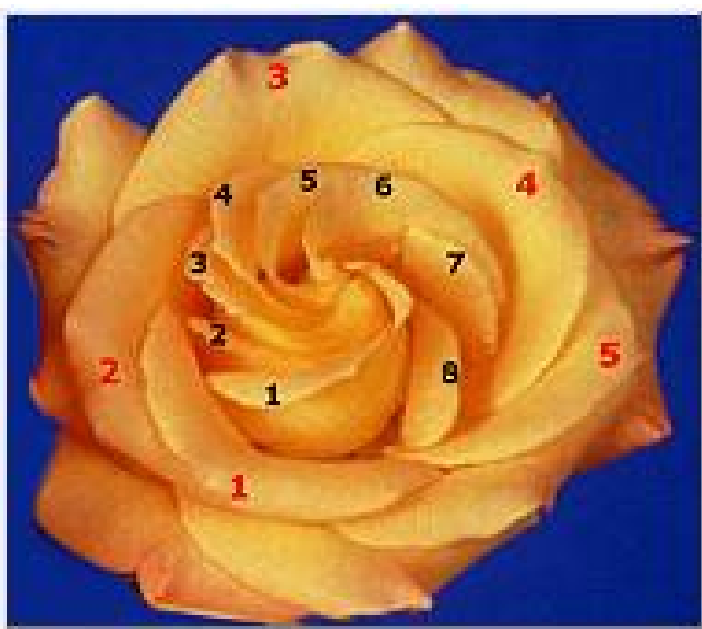
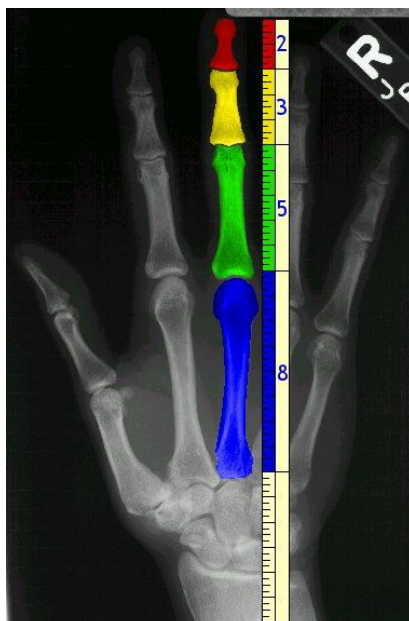
0, 1, 1, 2, 3, 5, 8, 13, ...

This sequence of numbers is called the Fibonacci sequence. It can also be seen using graph paper and filling in the squares as follows:



What would the dimensions of the next two squares be?

This sequence can be found in many places in the human body and in nature...



Comparing these consecutive numbers, a common ratio is found. Find the missing numbers for the ratios below to find the Golden Ratio.

0, 1, 1, 2, 3, 5, 8, 13, 21, 34

$$1/1 = 1$$

$$2/1 = 2$$

$$3/2 = 1.5$$

$$5/3 =$$

$$8/5 =$$

$$13/8 =$$

$$21/13 =$$

$$34/21 =$$

Is there a number that these ratios are approaching?

Golden Ratio =

Can you find the golden ratio from measurements of your body?

| 1 | 2 | Ratio (1:2) |
|------------------------------|--------------------------------|--------------------|
| Height of your head | Width of your head | |
| Length of elbow to fingertip | Length of wrist to fingertip | |
| Length of naval to feet | Length of naval to top of head | |