

Fibonacci Challenge Cards



Fibonacci Challenge Cards

1

Add 3 consecutive numbers from the Fibonacci sequence.

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

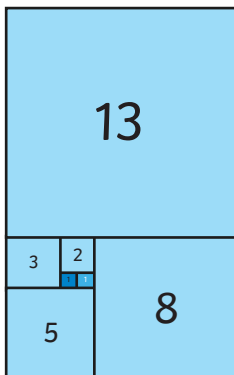
What do you notice?

Can you continue the sequence?

Try 4 and 6 consecutive numbers.

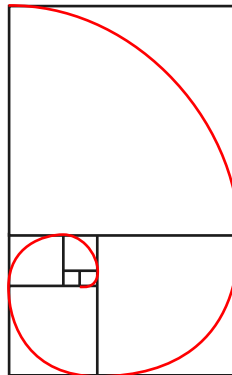
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2



Draw the pattern on the left.

Use the boxes to draw a spiral. Start in the red box and keep going.



This spiral appears a lot in nature. Can you find some examples?

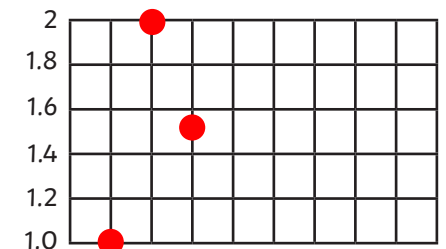
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3

Take consecutive numbers from the Fibonacci sequence and divide the larger one by the smaller one. Ignore 0. Record the results in a table:

Number 1	Number 2	No. 2 \div No.1
1	1	1
1	2	2
2	3	1.5
3	5	
5	8	

Now plot the results in a grid:



What happens?

Create your own Fibonacci sequence by starting with any 2 numbers:

e.g. 3, 8, 11, 19, 30...

or 2, 40, 42, 82, 124...

Can you find any sequence in which the number 196 can be found?

Do you notice anything about how odd and even numbers work in any Fibonacci series?

Fibonacci Challenge Answers

1. 3 numbers: 2, 4, 6, 10, 16, 26.. (operates like a Fibonacci series starting with 2 and 4.)
2. 4 numbers: 4, 7, 11, 18, 29 (operates like a Fibonacci series starting with 4 and 7.)
3. 6 numbers: 12, 20, 32 (operates like a Fibonacci series starting with 12 and 20)
4. The pattern can also be found by adding the next number and subtracting the number no longer used.
5. None required.
6. The answer gets closer to a number which is about 1.62.
7. It is 1.61803398875 (which is known as the golden ratio).
8. Can you find any sequence in which the number 196 can be found? Work backwards from 196.
9. e.g. $100 = 96 + 4$, so 96, 100, 196, and $100 = 4 + 96$, so 4, 96, 100, 196
10. 8, 32, 44, 76, 120, 196
11. 26, 85, 111, 196
12. 3, 60, 63, 123, 196
13. Do you notice anything about how odd and even numbers work in any Fibonacci series?
14. Odd, odd, even or all even.