

Find and graph the first 10 terms of the Fibonacci sequence given by

$$T_{n+2} = T_{n+1} + T_n, T_1 = 1, T_2 = 1$$

and then find the ratio of consecutive terms.

Tap **Type** and choose the 4th type.

Enter the recursive formula on the first line.

Tap **EXE**.

Enter the first term as **1** and then the second term as **1**.

Check that the formula is selected.



Tap

Use Start and End to set the first term as **1** and last term as **10** and then tap **OK**.



Tap

Tap **Resize**.

The first ten terms are displayed.

n	a _n
1	1
2	1
3	2
4	3
5	5
6	8
7	13
8	21
9	34
10	55



Tap .

Tap **Zoom, Auto**.

The ten terms are plotted and scaled to fit the window.



Tap .

Use Start and End to set the first term as **1** and last term as **20** and then tap **OK**.

Tap to close the graph window.



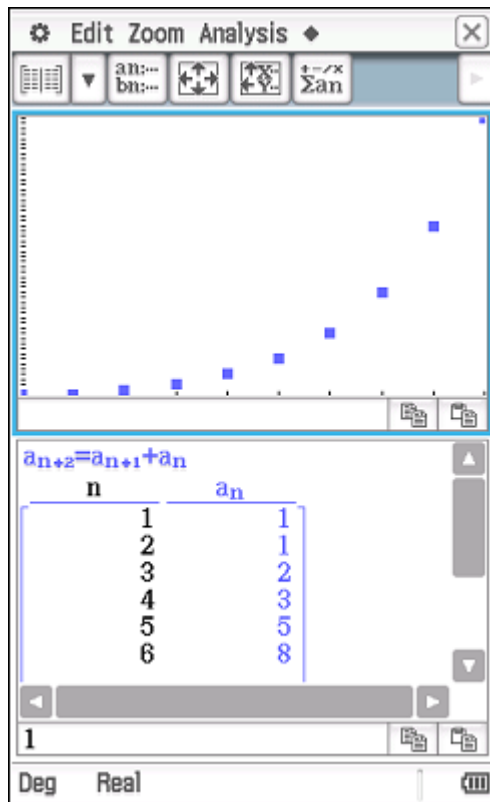
Tap and choose the middle option.

Tap **Resize**.

The ratio of the first ten terms are displayed and can be seen to start approaching the value of golden ratio of

$$\frac{1 + \sqrt{5}}{2}$$

Tap to close the window and return to the sequence editor.



Recursive Explicit

$a_{n+2} = a_{n+1} + a_n$

$a_1 = 1$

Sequence Table Input

Start : 1

End : 20

OK Cancel

Math1	Line	$\sqrt{\square}$	π	\rightarrow
Math2	\square^\square	e^\square	\ln	\log_{\square}
Math3	$ \square $	x^2	x^{-1}	$\log_{10}(\square)$
Trig	\square	toDMS	{}	{}
Var	\square	\square	\square	\square
abc	sin	cos	tan	\circ

ive Explicit

$a_{n+2} = a_{n+1} + a_n$

$a_1 = 1$

$a_2 = 1$

$a_1 = 0$

$a_2 = 0$

n	a_n
1	1
2	1
3	2
4	3
5	5
6	8

$a_{n+2} = a_{n+1} + a_n$

n	a_n	Quot
1	1	Undefined
2	1	1
3	2	2
4	3	1.5
5	5	1.6667
6	8	1.6
7	13	1.625
8	21	1.6154
9	34	1.6190
10	55	1.6176
11	89	1.6182
12	144	1.6180
13	233	1.6181
14	377	1.6180
15	610	1.6180
16	987	1.6180
17	1597	1.6180
18	2584	1.6180

1.61803381340013