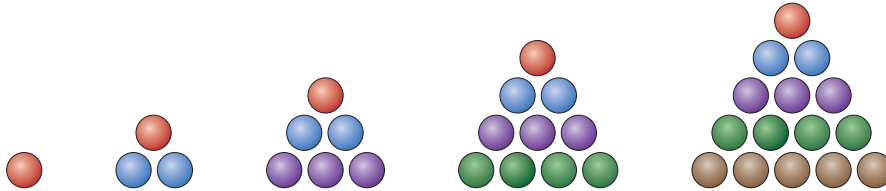


Triangular Numbers In Exercises 15–17, use the information below. (See Examples 5 and 6.)

The sequence of triangular numbers is
 1, 3, 6, 10, 15, 21, 28, 36, 45, . . .

15. Describe the pattern.
16. Describe how the sequence of triangular numbers is related to the following diagram.



17. Is 115 a triangular number? Explain your reasoning.

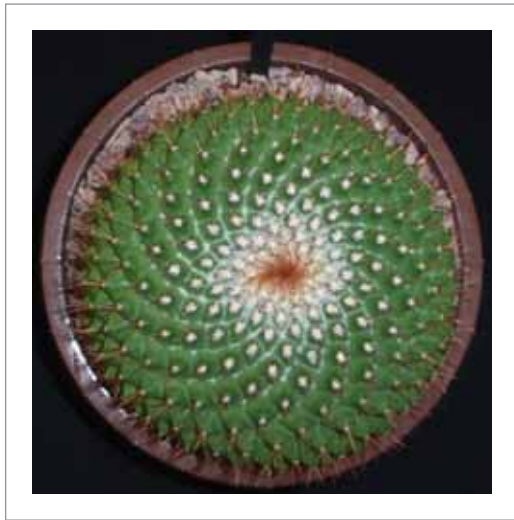
Lucas Sequence In Exercises 18–20, use the information below. (See Examples 5 and 6.)

The Lucas sequence is named in honor of mathematician François Édouard Anatole Lucas.

The Lucas sequence is
 1, 3, 4, 7, 11, 18, 29, 47, 76, . . .



18. Describe the pattern.
19. Describe how the Lucas sequence is related to the cactus.



	A	B
1	Term	Ratio
2	1	
3	3	
4	4	1.333333333
5	7	1.75
6	11	
7	18	
8	29	
9	47	
10	76	
11	123	
12	199	
13	322	
14	521	
15	843	
16	1364	
17	2207	
18	3571	
19	5778	
20	9349	
21	15127	
22		



20. Use the spreadsheet to find the ratio of successive Lucas numbers. What number do you approach as the numbers get larger?