Johann Carl Friedrich Gauss

Johann Carl Friedrich Gauss (1777–1855) was a German mathematician and scientist who significantly contributed to many fields in mathematics and science. Known as the Prince of Mathematicians, he was a child prodigy. There are many anecdotes pertaining to his precocity while a toddler and he made his first ground-breaking mathematical discoveries while still a teenager. According to Isaac Asimov, Gauss was once interrupted in the middle of a problem and told that his wife was dying. He is purported to have said, "Tell her to wait a moment till I'm done."

http://www-history.mcs.st-andrews.ac.uk/Biographies/Gauss.html

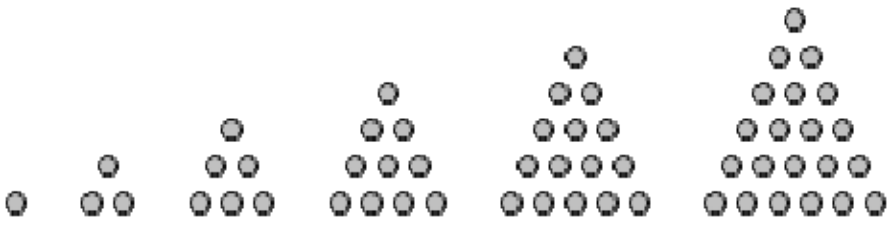
One of the stories tells that at the age of three, he corrected an error his father had made while calculating finances. Another famous story has it that in primary school after the young Gauss misbehaved, his teacher gave him a task: add the numbers from 1 to 100. The young Gauss reputedly produced the correct answer within seconds, to the astonishment of his teacher.

Gauss's presumed method was to realize that pairwise addition of terms from opposite ends of the list yielded identical intermediate sums: 1 + 100 = 101, 2 + 99 = 101, 3 + 98 = 101, and so on, for a total sum of 50 × 101 = 5050.

(*http://en.wikipedia.org/wiki/Carl_Friedrich_Gauss*)

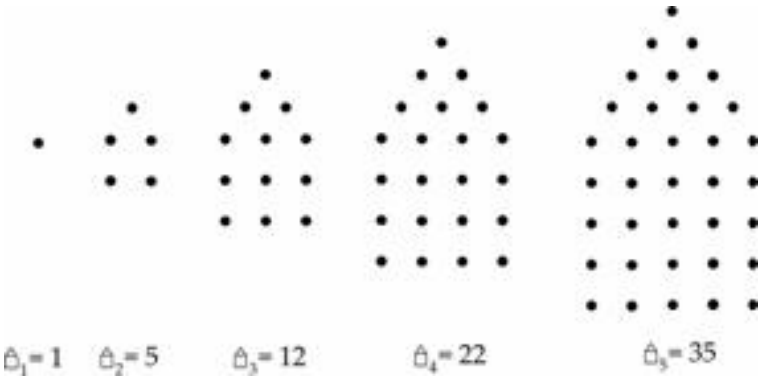
Figurate numbers

A **figurate number** is a number represented as a geometric pattern of dots. One example is the triangular numbers, represented as triangles.



(*http://en.wikipedia.org/wiki/Figurate_numbers*)

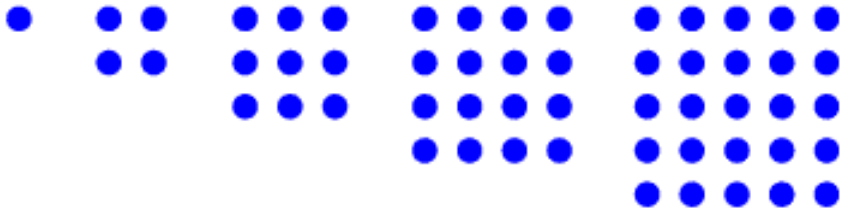
Any regular geometric shape can be used for polygonal numbers (shaped like polygons) but you can also design other geometric designs.



(*http://www.inner.org/parshah/numbers/naso/naso-lengthiest-parshah.php*)

The interesting part comes when we count the number of dots in each picture. This gives us a sequence of numbers that happen in a specific pattern. Identifying the formula for that pattern is an important part of mathematics.

EXAMPLE: The sequence of square numbers is generated by dots making squares of increasing size. This sequence is the set of **perfect square numbers**. That's where they got their name, from the square figures that these special numbers make.



1 2 3 4 5

Figure #	# of dots in figure	Pattern
1		
2		
3		
4		
⋮		
n		