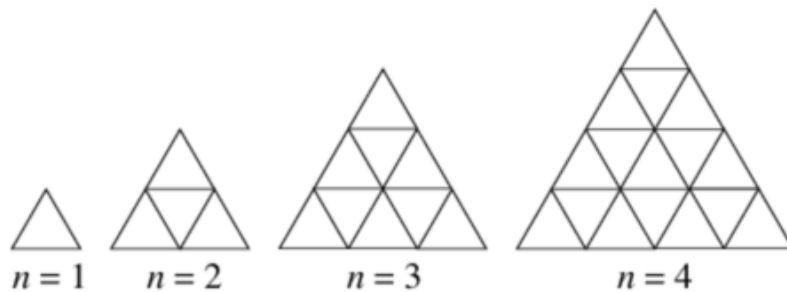




Key:

(Hint: Some of the triangles are overlapping)

There are 27 total triangles:



The total number of triangles (including inverted ones) in the above figures are given by

$$N(n) = \begin{cases} \frac{1}{8} n(n+2)(2n+1) & \text{for } n \text{ even} \\ \frac{1}{8} [n(n+2)(2n+1) - 1] & \text{for } n \text{ odd.} \end{cases}$$

The first few values are 1, 5, 13, 27, 48, 78, 118, 170, 235, 315, 411, 525, 658, 812, 988, 1188, 1413, 1665, ... (OEIS [A002717](#)).

Engaging in *think-notice-wonder* writing activities at the start of a math class is a great way to ignite student thinking, spark creativity, and build anticipation.

Even if students are not directly engaged in mathematical problem-solving, their curiosity and interest will carry on throughout the day's lesson.

Be mindful that your kids will need some time to get used to these kinds of activities, but after a week or so, you'll be pleasantly surprised by the spike in engagement, boost in student enthusiasm and high quality of responses!

Learn more at [www.mashupmath.com/blog/tnw](http://www.mashupmath.com/blog/tnw)