

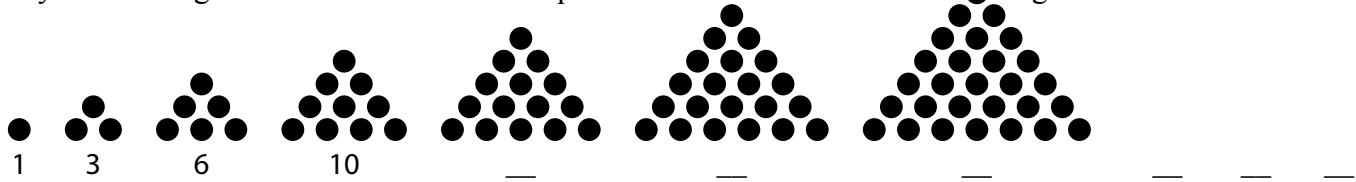
MathFLIX CHALLENGE

Triangular Numbers

Inspired by The Number Devil: A Mathematical Adventure

by Hans Enzensberger, Susanne Berner and Michael Heim (May, 2000)

Some numbers are called figurate numbers because they make shapes (or figures) like triangles, squares and cubes. Study these triangular numbers to discover a pattern then calculate the next 3 triangular numbers.



Use the table below to show that any counting number can be expressed as the sum of two or three triangular numbers.

counting #'s	sum of triangular #'s	counting #'s	sum of triangular #'s	counting #'s	sum of triangular #'s
1		11		21	
2	1 + 1	12		22	
3		13		23	
4		14		24	
5		15		25	
6		16		26	
7		17		27	
8	6 + 1 + 1	18		28	
9		19		29	
10		20		30	

Can you add 2 adjacent triangular numbers to get a square number?

1 + 3 =	3 + 6 =	6 + 10 =	= 25	= 36	= 49