



Triangular Numbers

- (1) Write down the sequence that are formed by pentagons. Find the pattern in this sequence and see if the same can be done for other geometric objects.

Answer: 1, 5, 12, 22, 35, 51, 70, ...

$$\text{here } a_n = (3n^2 - n)/2$$

Hexagonal Numbers: 1, 6, 15, 28, 45, 66, 91, ..., $2n^2 - n$, ...

Heptagonal Numbers: 1, 7, 18, 34, 55, 81, 112, ..., $(5n^2 - 3n)/2$,

...