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ON POLYGONAL ($N^{\mathbf{th}}$-GONAL) NUMBERS

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Abstract

In this paper, an attempt has been made to present the observation on polygonal (n^{th}-gonal) numbers in arithmetic progression. In that, the parameters represent the indices of n^{th}-gonal numbers in arithmetic progression. In addition, the existence of infinitely many triples of n^{th}-gonal numbers in arithmetic progression with identical least value is analyzed by using the theory of Pell's equation.

Key Words : *Arithmetic progression, n^{th}-gonal numbers, Pell's equation, Pythagorean triangle, Triplet.*