

Some Problems Involving Sums and Their Solutions

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A well-known that the following simple formula of the sum of first n natural numbers

$$\sum_{k=1}^n k = \frac{n(n+1)}{2} \quad (0.1)$$

was proved by Gauss. In the present talk the formula of the sum of first n natural numbers (0.1) with many proofs is considered. The solutions of several mathematical olympiad problems involving sums are presented.