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The figure below contains information that can be used to explain why the following statement is true:

$$\text{If } T_k = 1 + 2 + \dots + k \text{ then } T_1 - T_2 + T_3 - \dots + T_{2n-1} = n^2.$$

$T_n$  is called the  $n^{\text{th}}$  Triangular number. Give a written explanation based on the figure for the truth of the statement.

