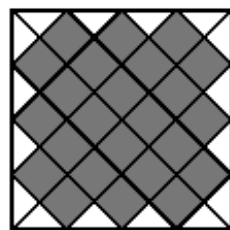




8. Points are drawn on the sides of a square, dividing each side into n equal parts (so, in the example shown, $n = 4$). The points are joined in the manner indicated, to form several small squares (24 in the example, shown shaded) and some triangles. How many small squares are formed when $n = 7$?



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8. **B** One way to count the number of small squares formed is to divide the large square into four quarters along its two diagonals. The number of small squares formed is $4 \times T_{n-1}$, where T_{n-1} is the $(n - 1)$ th triangular number. When $n = 7$, this is $4 \times \frac{1}{2}(6 \times 7)$ which is 4×21 . So 84 squares are formed.