VYPOČÍTEJTE $\sum_{i=1}^{n} (3i + 2)$

$$\sum_{i=1}^{n} (3i + 2) = \sum_{i=1}^{n} 3i + \sum_{i=1}^{n} 2$$

$$\sum_{i=1}^{n} (3i + 2) = (3 \cdot 1 + 2) + (3 \cdot 2 + 2) + \ldots (3n + 2) =$$

$$= (3 \cdot 1 + 3 \cdot 2 + \ldots + 3n) + (\underbrace{2 + 2 + \ldots + 2}_{n}) =$$

$$= \sum_{i=1}^{n} 3i + \sum_{i=1}^{n} 2 = 3 + 6 + \ldots + 3n + 2n = \frac{n}{2}(3n+3) + 2n =$$

$$S_n = \frac{n}{2}(a_1 + a_n) = \quad = \frac{n(3n+3) + 4n}{2} =$$

$$= \frac{n}{2}(3 + 3n) = \frac{n}{2}(3n+3) = \frac{3n^2 + 3n + 4n}{2} =$$

$$= \frac{3n^2 + 7n}{2} = \frac{n(3n+7)}{2}$$

$$\boxed{\sum_{i=1}^{n} k = nk}$$

VYPOČÍTEJTE $\sum_{i=1}^{n}(3i+2)$

$$\sum_{i=1}^{n}(3i+2) = \sum_{i=1}^{n} 3i + \sum_{i=1}^{n} 2$$

$$\sum_{i=1}^{n}(3i+2) = (3\,1+2) + (3\,2+2) + \dots + (3n+2) =$$

$$= (3\cdot 1 + 3\cdot 2 + \dots + 3n) + (\underbrace{2+2+\dots+2}_{n}) =$$

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$$S_n = \frac{n}{2}(a_1 + a_n) = \quad = \frac{n(3n+3)+4n}{2} =$$

$$= \frac{n}{2}(3+3n) = \frac{n}{2}(3n+3) = \frac{3n^2+3n+4n}{2} =$$

$$= \frac{3n^2+7n}{2} = \frac{n(3n+7)}{2}$$

$$\boxed{\sum_{i=1}^{n} k = nk}$$