

- Questão 1:

$$\sum_0^n (3 + i)$$

$$\begin{aligned} & \sum_0^n (3) + \sum_0^n (i) \\ & 3n+3 + n^2 + n_{\overline{2}} \\ & 6n+6+n^2 + n_{\overline{2}} \\ & (7n+6+n^2_{\overline{2}}) \\ & S_n = 3 + \frac{7n+n^2}{2} \end{aligned}$$

- Questão 2:

$$\sum_1 n(2i+1)^2 - (2i)^2$$

$$\begin{aligned} & \sum_1 n(2(n)+1)^2 - (2n)^2 \\ & \sum_1 n(2n+1)^2 - (2n)^2 \\ & \sum_1 n(4n^2+4n+1) - (4n^2) \\ & \sum_1 n(4n+1) \rightarrow 4 \sum_1^n n + \sum_1^n 1 \\ & 4(n^2 + n_{\overline{2}+n}) \\ & 4n^2 + 4n_{\overline{2+\frac{n}{1}}} \\ & 4n^2 + 4n + 2n_{\overline{2 \rightarrow \frac{4n^2+6n}{2}}} \\ & S_n = 2n^2 + 3n \end{aligned}$$

- Questão 3:

$$\sum_1^n [(5i+1)^2 - (5i-1)^2]$$

$$\begin{aligned} & \sum_1^n [(5n+1)^2 - (5n-1)^2] \\ & \sum_1^n (25n^2 + 10n + 1) - (25n^2 - 10n + 1) \\ & \sum_1^n (25n^2 + 10n + 1 - 25n^2 + 10n - 1) \\ & \sum_1^n (20n) \\ & 20 \sum_1^n (n) \rightarrow 20(\frac{n^2+n}{2}) \\ & S_n = 10n^2 + 10n \end{aligned}$$

- Questão 4:

Não sei resolver.