

Math 2013 - Introduction to Discrete Mathematics

Quiz #6 - 2005.09.28

Solutions

Compute the following sums:

$$\sum_{i=1}^4 4i^2 + 12i - 4 = 4 \sum_{i=1}^4 i^2 + 12 \sum_{i=1}^4 i - \sum_{i=1}^4 4 = 4 \cdot 30 + 12 \cdot 10 - 4 \cdot 4 = 224$$
$$\sum_{i=1}^{10} j = 10j$$

$$\begin{aligned} \sum_{j=1}^5 \sum_{i=1}^4 2\delta_{ij} + i + j &= 2 \sum_{j=1}^5 \sum_{i=1}^4 \delta_{ij} + \sum_{j=1}^5 10 + 4 \sum_{j=1}^5 j \\ &= 2 \cdot 4 + 5 \cdot 10 + 4 \cdot 15 = 118 \end{aligned}$$