

Exercise 6

Suppose that $\sum_{i=1}^{100} a_i = 15$ and $\sum_{i=1}^{100} b_i = -12$. In the following exercises, compute the sums.

$$\sum_{i=1}^{100} (3a_i - 4b_i)$$

Solution

$$\begin{aligned}\sum_{i=1}^{100} (3a_i - 4b_i) &= \sum_{i=1}^{100} (3a_i) - \sum_{i=1}^{100} (4b_i) \\ &= 3 \sum_{i=1}^{100} a_i - 4 \sum_{i=1}^{100} b_i \\ &= 3(15) - 4(-12) \\ &= 45 + 48 \\ &= 93\end{aligned}$$