

Exercise 7

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

$$\sum_{i=1}^{100} (5a_i + 4b_i)$$

Solution

$$\begin{aligned}\sum_{i=1}^{100} (5a_i + 4b_i) &= \sum_{i=1}^{100} (5a_i) + \sum_{i=1}^{100} (4b_i) \\ &= 5 \sum_{i=1}^{100} a_i + 4 \sum_{i=1}^{100} b_i \\ &= 5(15) + 4(-12) \\ &= 75 - 48 \\ &= 27\end{aligned}$$