

Homework Solutions

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Exercise 3

We need to compute a weighted average, weighted by the class sizes.

$$\begin{aligned}\text{Weighted average} &= \frac{82 \times 25 + 74 \times 15}{25 + 15} \\ &= \frac{3160}{40} \\ &= 79.\end{aligned}$$

Or you could first express the class sizes as percentages or proportions of the total and then use the percentages. The first class is $\frac{25}{40} = 0.625$ of the total and the second class is $\frac{15}{40} = 0.375$ of the total. Then the weighted average is

$$\begin{aligned}\text{Weighted average} &= 82 \times 0.625 + 74 \times 0.375 \\ &= 51.25 + 27.25 \\ &= 79.\end{aligned}$$