Averages

The average weight of a group of 53 girls was calculated as 58 kg. It was later discovered that the weight of one of the girls was read as 65 kg, whereas her actual weight was 45 kg. What is the actual average weight of the group of 53 girls? (Rounded off to two digits after decimal).

a) 58.62   b) 58.37   c) 57.37   d) 57.62

$$\text{New avg} = \text{Initial avg} + (\text{change in avg})$$

$$= 58 + \left(\frac{+45-65}{53}\right) \quad \frac{-20}{53}$$

$$= 58 - \frac{\overset{3}{\cancel{200}}}{\cancel{53}} = 58 - 0.37 = 57.63$$

Averages

The average marks of 65 students in a class were calculated as 150. It was later realized that the marks of one of the students was calculated as 142, whereas his actual marks were 152. What are the actual average marks of the group of 65 students? (Rounded off to two digits after decimal)

a) 151.25   b) 150.15   c) 151.10   d) 150.19

$$\text{Actual avg} = 150 + \left(\frac{+152 - 142}{65} \right)$$

$$150 + \frac{100}{65} = 150 + 0.15 = 150.15$$

Averages

The average marks in Science subject of a class of 20 students is 68. If the marks of two students were misread as 48 and 65 of the actual marks 72 and 61 respectively, then what would be the correct average?

a) 68.5   b) 69   c) 69.5   d) 68

$$\text{Sum of } 20 = \overset{A}{68} \times \overset{N}{20} = 1360$$

$$\text{Correct avg} = \frac{1360 - (48 - 65) + (72 + 61)}{20}$$

$$= 68 + \left(\frac{20}{20}\right)^1 = 68 + 1 = \boxed{69}$$