

$$\begin{aligned} \text{i) } 50 + X + 90 &= 200 \\ 140 + X &= 200 \\ X &= 60 \end{aligned}$$

$$\text{ii) } \frac{(50(113) + 60Y + 90(115))}{200} = 116$$

$$6Y = 2320 - 565 - 1035$$

$$Y=120$$

$$\text{iii) } (7.746)^2 = \frac{(50(6)^2 + 60(7)^2 + 90(Z)^2)}{200}$$

$$+ \frac{50(113 - 116)^2 + 60(120 - 116)^2 + 90(115 - 116)^2}{200}$$

$$90(Z)^2 = 5760.1032$$

$$Z = 8$$