

Solutions

Each answer shows the steps, then the **result**.

2.1

- $\text{IQR} = 23 - 14 = 9$

2.2

- $\bar{x} = \frac{96}{8} = 12$

3.1 B

- $\text{Variance} = \frac{4500}{10} - \left(\frac{200}{10}\right)^2 = 450 - 400 = 50$

3.2

(a)

- ordered already; median (4th) = 8; $Q_1 = 5$, $Q_3 = 12$, $\text{IQR} = 7$

(b)

- $\sum x = 58$, $\bar{x} = \frac{58}{7} = 8.29$; $\sum x^2 = 9 + 25 + 25 + 64 + 81 + 144 + 256 = 604$;
 $\sigma = \sqrt{\frac{604}{7} - 8.29^2} = \sqrt{86.29 - 68.7} = \sqrt{17.6} = 4.20$

3.3

- above Q_3 is the top quarter = $\frac{1}{4} \times 200 = 50$ students