

National 5 Mathematics

Quartiles - Solutions - 2014-2017

Marks are indicated in brackets after each question number

2015 Paper 1 Question 10, (3) (2)

a) {12 16 17 18 18 21 22 26 27 27}

$$\text{Median} = Q_2 = \frac{18 + 21}{2} = 19.5$$

$$Q_1 = 17, Q_3 = 26$$

$$\text{Semi-interquartile Range} = \frac{26 - 17}{2} = 4.5$$

b) The median has increased and the semi-interquartile range has decreased. This means that on average the couples have scored better in the second round but because the semi-interquartile range has decreased the scores are less consistent than they were in the first round.

2017 Paper 1 Question 2, (2)

Ordering the data gives

198 216 218 230 232 247 248 250 265 267

$$Q_1 = 218$$

$$Q_3 = 250$$

$$\begin{aligned} \text{Semi-interquartile range} &= \frac{Q_3 - Q_1}{2} \\ &= \frac{250 - 218}{2} \\ &= 16 \end{aligned}$$