Marked example 3

Paper 2 style · Graphic display calculator

3 6 marks SL 4.2 · 4.3 ●●○ Typical

The numbers of books read in one year by 12 students are

$$3,\ 7,\ 8,\ 8,\ 10,\ 11,\ 12,\ 14,\ 15,\ 15,\ 18,\ 35.$$

(a) Find the mean and the standard deviation of these data. **[2]**

(b) Write down the lower quartile and the upper quartile. **[2]**

(c) Show that 35 is an outlier. **[2]**

MARKSCHEME (a)

mean 13 — A1

standard deviation 7.74 $(7.73520\ldots)$ — A1

Total 2 marks

Note The population standard deviation σ.

MARKSCHEME (b)

$Q_1 = 8$ — A1

$Q_3 = 15$ — A1

Total 2 marks

MARKSCHEME (c)

$15 + 1.5 \times 7 = 25.5$ — M1

$35 > 25.5$, so 35 is an outlier — A1

Total 2 marks

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