

- 3 The back-to-back stem-and-leaf diagram shows the annual salaries, in dollars, of 27 employees at each of two companies, Browns and Greens.

Browns									Greens									
(3)	9 8 4							30	6 8								(2)	
(7)	8	8	5	3	3	1	0	31	2	4	5	8					(4)	
(7)	9	7	6	4	2	2	0	32	3	6	6	7	9				(5)	
(6)		8	7	5	5	3	1	33	1	1	3	7	8	8	9	9	(8)	
(3)	4 2 2							34	0	2	3	5	6	9				(6)
(1)	7							35	3	7								(2)

Key: 6|32|7 means \$32 600 for Browns and \$32 700 for Greens.

- (a) Find the median and interquartile range for the annual salaries of employees at Browns. [3]

[illegible]

The annual salary of an employee at Browns is denoted by x thousand dollars and the annual salary of an employee at Greens is denoted by y thousand dollars. It is given that, for the 27 employees at each of the companies,

$$\Sigma x = 878.3, \quad \Sigma x^2 = 28\,616.09, \quad \Sigma y = 896.5, \quad \Sigma y^2 = 29\,815.63.$$

- (b) Find the mean and standard deviation of the annual salaries of these 54 employees. [5]

[illegible]

- 5 The times of 240 competitors taking part in an event are recorded correct to the nearest minute. The results are summarised in the table.

Time (minutes)	1 – 10	11 – 20	21 – 25	26 – 30	31 – 50
Frequency	12	38	68	76	46

- (a)** Draw a histogram to represent this information.

[4]

A full-page sheet of white graph paper featuring a uniform grid of thin black lines. The grid consists of small squares covering the entire area. There are no margins, text, or other markings on the page.

- [3]

[illegible]

- 3 Last Sunday, teams of runners took part in a charity event. The time taken, in seconds, to run 50 m was recorded, correct to 1 decimal place, for each runner. The times recorded for 11 runners from each of the Gulls and the Herons are shown in the table.

Gulls	7.9	8.2	8.3	8.6	8.6	8.8	9.2	9.7	9.8	10.0	10.4
Hérons	9.5	9.9	8.5	8.1	9.2	10.8	8.3	9.7	9.3	9.9	8.7

- (a) Draw a back-to-back stem-and-leaf diagram to represent this information, with Gulls on the left-hand side. [4]

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It is given that $\sum x = 175.0$ and that the mean of y is 8.4.

- [illegible]

It is also known that the standard deviation of the times taken by all 50 runners is 1.38 seconds.

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