

GCSE Statistics - Diagnostic test

Scatter diagrams and Time series

NAME: _____

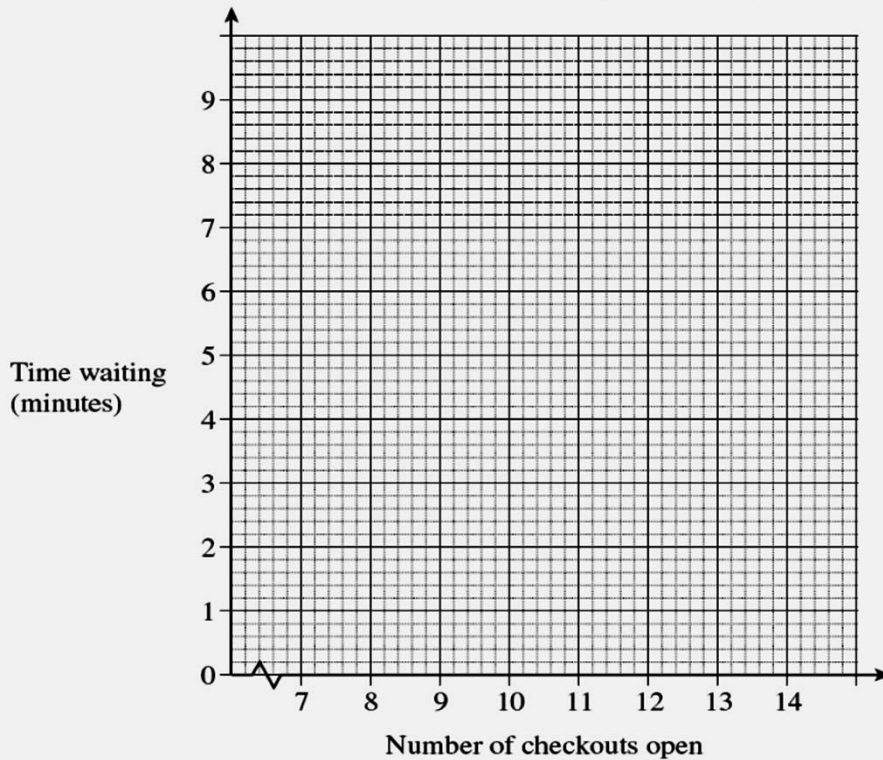
1

Over a period of time Anya keeps a record of the number of checkouts open and the length of time she has to wait to be served at her local supermarket.

The data for her last eight visits are in the table.

Number of checkouts open	9	13	9	13	12	11	7	14
Time waiting (minutes)	7	3	5	6	5	6	9	3

(a) Plot these data as a scatter diagram using × for each point.



(2 marks)

(b) Describe the strength **and** type of correlation shown in the diagram.

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Answer..... (2 marks)

(c) For these data, the mean number of checkouts open is 11 and the mean length of time waiting to be served is 5.5 minutes.

Plot the double mean point on the diagram using the ● symbol.

Use this point to draw a line of best fit for the data. (2 marks)

(d) Estimate how long Anya has to wait to be served when there are 10 checkouts open.

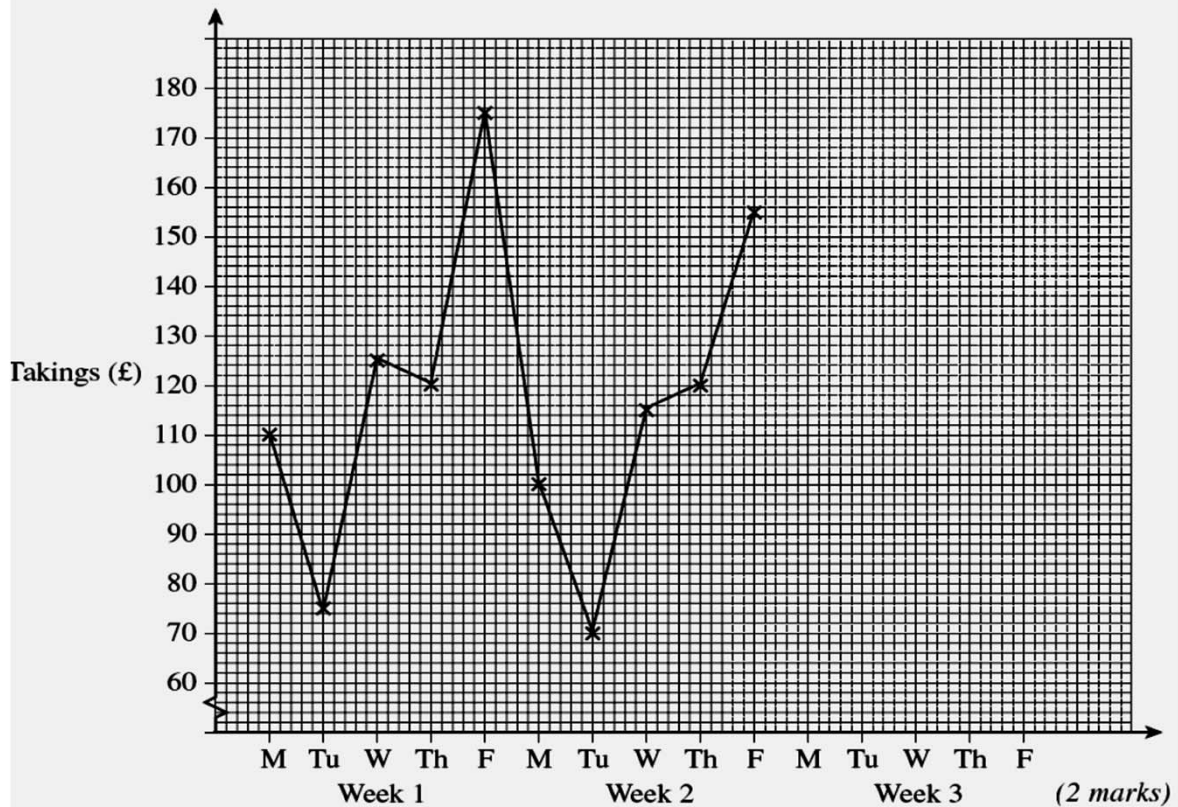
Answer minutes (1 mark)

2

The table shows the takings (£) for lunches at a work's café over a period of three weeks.

Week	Day	Takings (£)
1	Monday (M)	110
	Tuesday (Tu)	75
	Wednesday (W)	125
	Thursday (Th)	120
	Friday (F)	175
2	Monday (M)	100
	Tuesday (Tu)	70
	Wednesday (W)	115
	Thursday (Th)	120
	Friday (F)	155
3	Monday (M)	95
	Tuesday (Tu)	60
	Wednesday (W)	115
	Thursday (Th)	105
	Friday (F)	150

3 (a) Complete the time series graph below by plotting the points for week 3



(b) The takings are lowest on Tuesdays.

Give a possible reason for this.

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(1 mark)

(c) Describe two **other** patterns in the data.

Pattern 1

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Pattern 2

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(2 marks)

Total _____ **out of** **12**