

GCSE Statistics - Diagnostic test

Cumulative Frequency Polygons and Boxplots

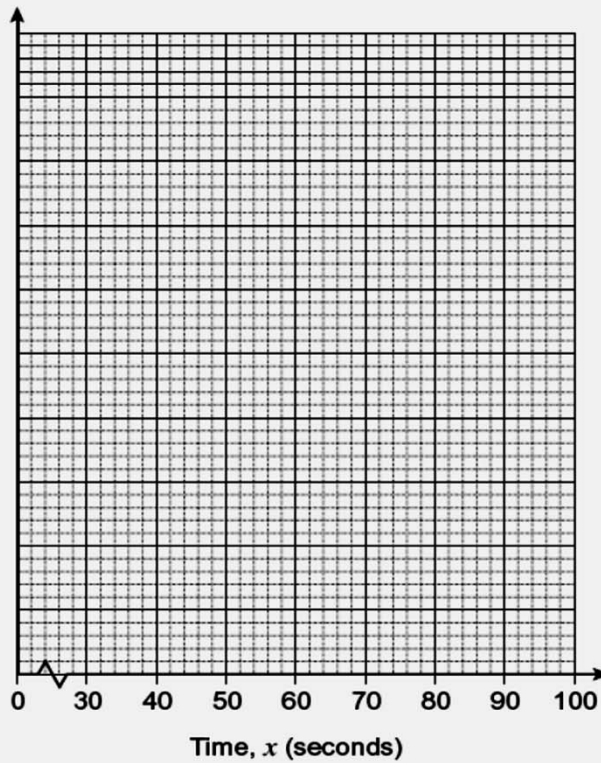
NAME: _____

1

Javed decides to use this appropriate frequency distribution for the 100 values.

Time, x (seconds)	Frequency	
$30 < x \leq 40$	4	
$40 < x \leq 50$	7	
$50 < x \leq 60$	11	
$60 < x \leq 70$	34	
$70 < x \leq 80$	32	
$80 < x \leq 90$	12	

Use a graphical method to estimate the median of the distribution.



Estimate of median = seconds (5 marks)

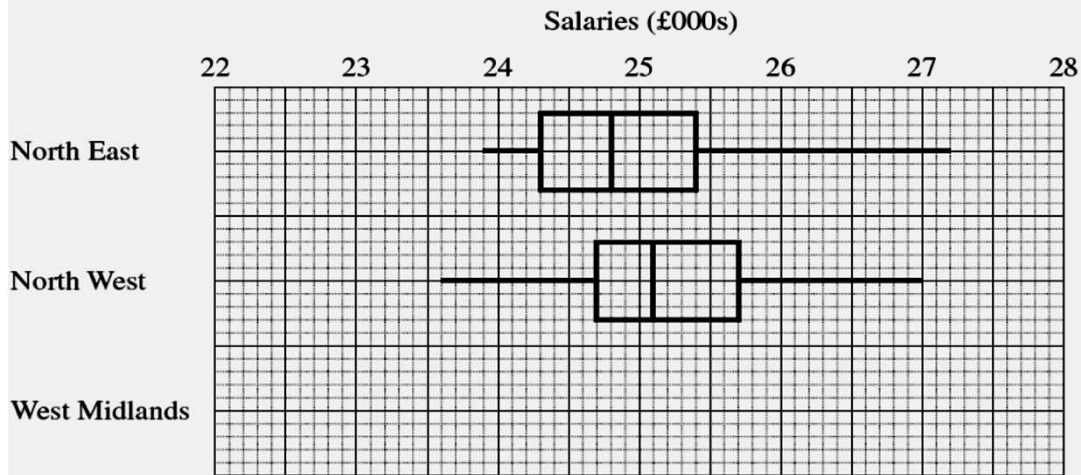
2

Sunita is an unemployed IT consultant.

She is planning to move to the North East, North West or West Midlands region of the UK to find work.

She downloads from the Internet details of twenty-five vacancies for IT staff in each region.

A summary of the salaries in the North East and North West regions is illustrated in the box plots below.



(a) What is the range of salaries in the North East region?

.....

Answer £ (1 mark)

(b) Find the interquartile range of salaries in the North West Region.

.....

Answer £ (2 marks)

(c) Sunita summarised her results from the West Midlands region.

The median salary on offer was £25 000, the lower quartile salary was £23 400, and the interquartile range was £3 100.

The highest salary was £26 900 and the lowest £22 300.

Use these results to draw a box plot on the grid.

(3 marks)

.....

(d) Sunita does not want to move to a region where the range in salaries exceeds £4500 or where the median salary is below £25 000.

(d) (i) State which region she should choose.

Answer (1 mark)

(d) (ii) Explain why the other two regions would **not** be selected.

Region

Reason

.....

Region

Reason

.....

(2 marks)

Total _____ out of 14