

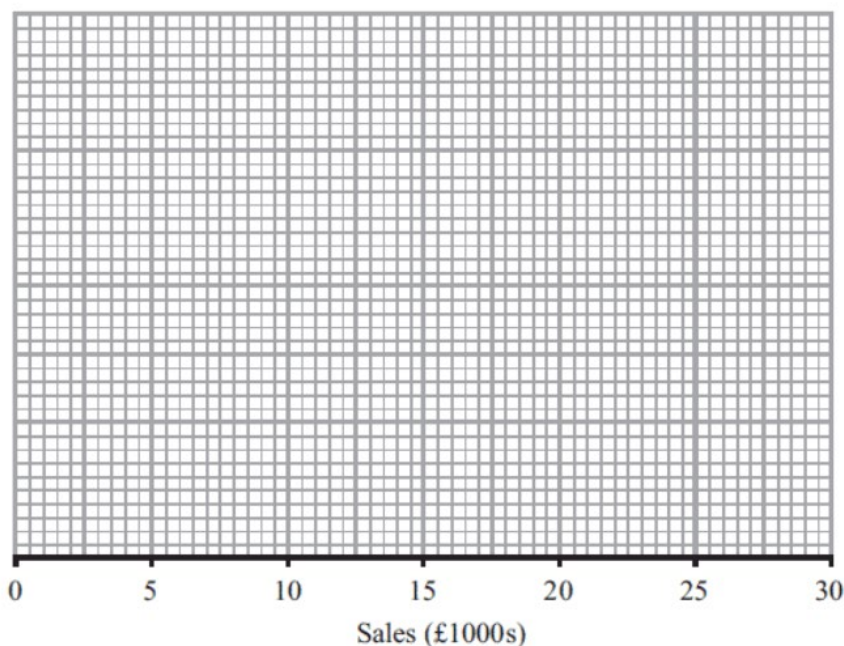
1. Over a long period of time a small company recorded the amount it received in sales per month. The results are summarised below.

	Amount received in sales (£1000s)
Two lowest values	3, 4
Lower Quartile	7
Median	12
Upper quartile	14
Two highest values	20, 25

An outlier is an observation that falls either,
 $1.5 \times$ interquartile range above the upper quartile, or
 $1.5 \times$ interquartile range below the lower quartile.

a. On the graph paper below, draw a box plot to represent these data, indicating clearly any outliers.

(5)

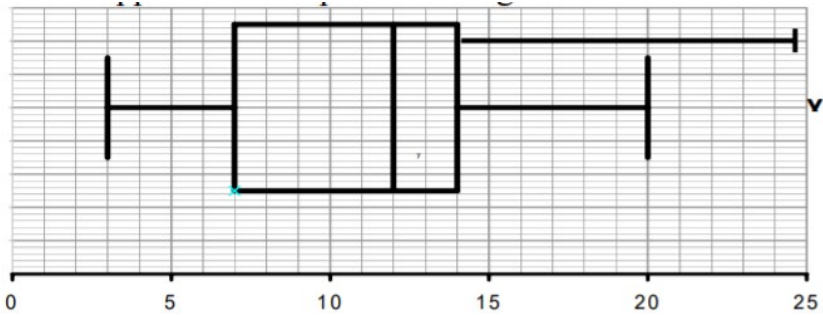


b. The company claims that for 75% of the months, the amount received per month is greater than £10,000. Comment on this claim, giving a reason for your answer

(2)

Solutions

1a.

Outliers: $14 + 1.5 \times (14 - 7) = 24.5$	M1
Outliers: $7 - 1.5 \times (14 - 7) = -3.5$	M1
Therefore, outlier is 25	M1
	
Shape	M1
Correct positioning of all values.	M1

1b.

Not true	M1
As the lower quartile is 7000 and therefore 75% above 7000 not 10000.	M1
(alternative explanation: 10 is inside the box or any other sensible comment)	