2. The weights, to the nearest kilogram, of a sample of 33 red kangaroos taken in December are summarised in the stem and leaf diagram below.

	Weight (kg)	Totals
1	6	(1)
2	3 6	(2)
3	2 4 6	(3)
4	2 5 5 6 6 7 8	(7)
5	3 4 7 7 7 8 9 9	(8)
6	0 2 2 3 3 7 8	(7)
7	2 8	(2)
8	2 6	(2)
9	4	(1)

Key: 3 | 2 represents 32 kg

(a) Find

(i) the value of the median

(ii) the value of Q_1 and the value of Q_3

for the weights of these red kangaroos.

(3)

For these data an outlier is defined as a value that is

greater than $Q_3 + 1.5 \times (Q_3 - Q_1)$

or smaller than $Q_1 - 1.5 \times (Q_3 - Q_1)$

(b) Show that there are 2 outliers for these data.

(3)

Figure 1 on page 7 shows a box plot for the weights of the same 33 red kangaroos taken in February, earlier in the year.

(c) In the space on Figure 1, draw a box plot to represent the weights of these red kangaroos in December.

(4)

(d) Compare the distribution of the weights of red kangaroos taken in February with the distribution of the weights of red kangaroos taken in December of the same year. You should interpret your comparisons in the context of the question.

(3)

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Question 2 continued

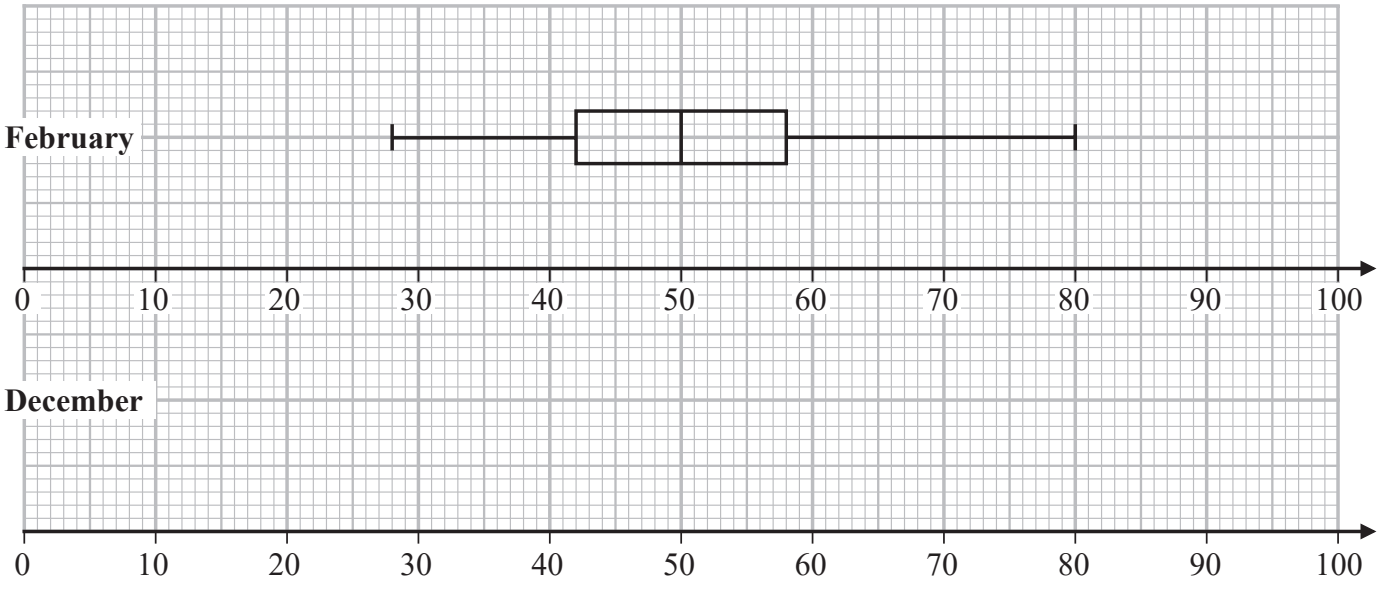


Figure 1

Turn over for a spare grid if you need to redraw your box plot.

Question 2 continued

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Question 2 continued

Only use this grid if you need to redraw your box plot.

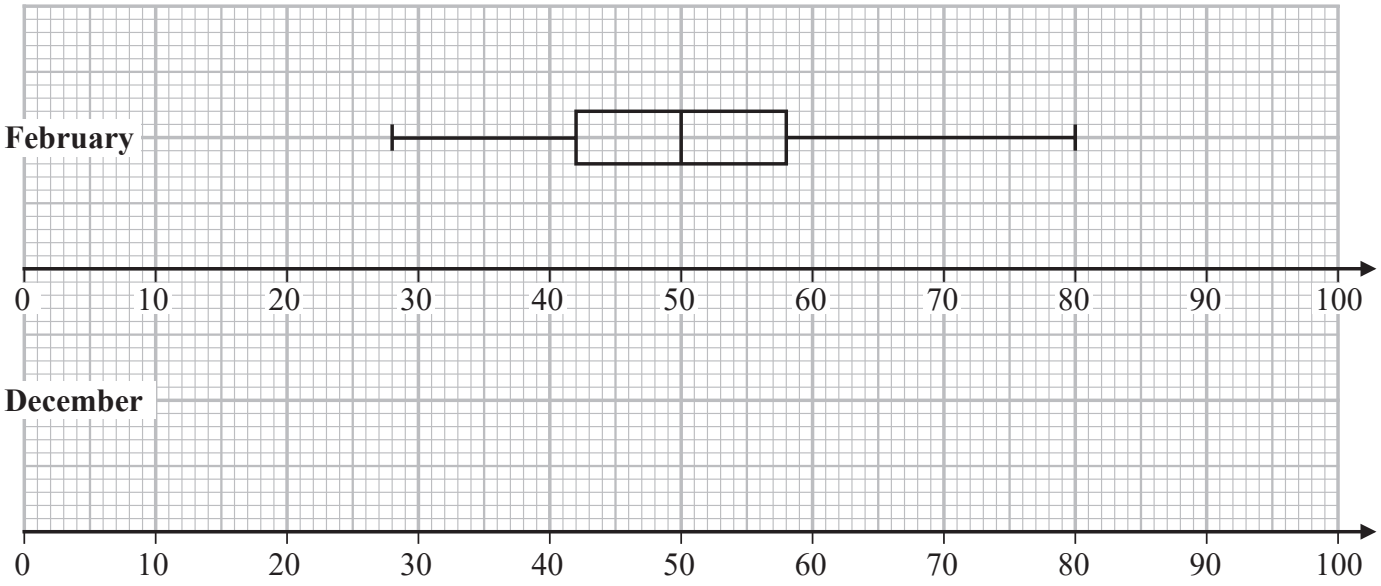


Figure 1

(Total for Question 2 is 13 marks)