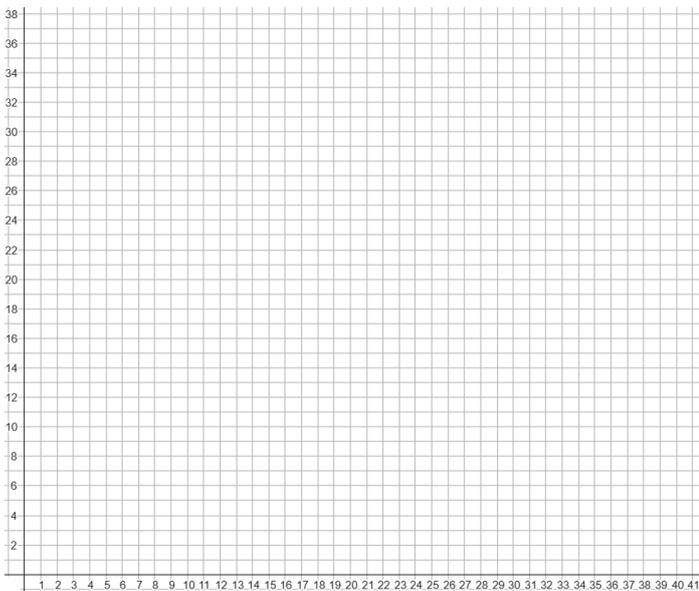(1) A survey was conducted to measure the height of some birds.

(a) Complete the cumulative frequency table below for the heights of some birds.

Height	Frequency	Cumulative Frequency
$0 < H \leq 10$	9	
$10 < H \leq 20$	11	
$20 < H \leq 30$	8	
$30 < H \leq 40$	8	

(b) Plot a cumulative frequency curve for the data on the diagram below labelling each axes.

(c) Estimate the median height of the birds.

(d) Estimate the upper and lower quartile.

(e) Calculate and estimate for the IQR.

(f) Find an estimate for the number of birds between $14cm$ and $28cm$ in height.

(g) Given that the smallest bird was $2cm$ and the largest bird was $36cm$, draw a box plot to represent the data on the diagram below.
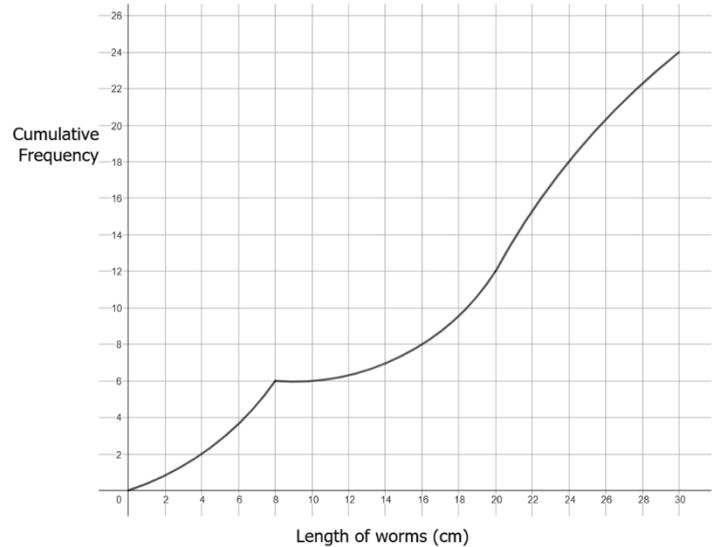
Another set of birds was measured. The box plot below shows information about the heights of the second set of birds.
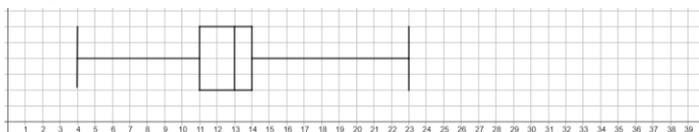
(h) Make two comparisons about the height of the birds in the first and second group.

(2) The diagram below shows a cumulative frequency graph for the length of some worms.
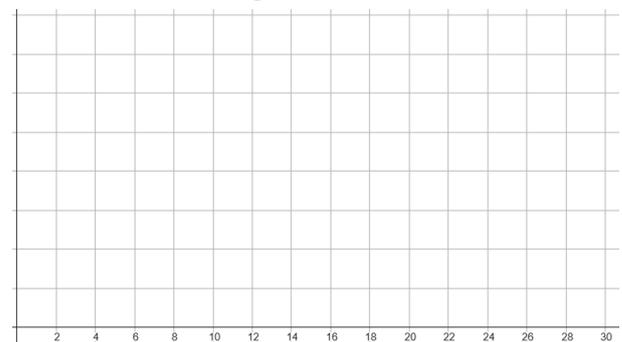
(a) Complete the frequency table

Length	Frequency
$0 < L \leq 8$	
$8 < L \leq 16$	
$16 < L \leq 20$	
$20 < L \leq 30$	

(b) Find an estimate for the median length of the worms.

(c) Estimate the IQR for the length of the worms.

(d) If a worm is less than $24cm$ it's culled. Find an estimate for the % of worms culled.

(e) Given that the smallest worm was $3cm$ and the largest was $28cm$, draw a box plot for the worms on the diagram below.

(f) A second set of worms were measured. The smallest worm was $2cm$ and the largest was $29cm$. The median length was $18cm$, the upper quartile was $20cm$ and the IQR was $15cm$. Use this data to draw a box plot on the axis above for the second set of worms.

(g) Make two comparisons about the length of the worms in the first and second group.

(3) The diagram below shows 2 box plots for the scores class A and class B scored in a maths test at a school.
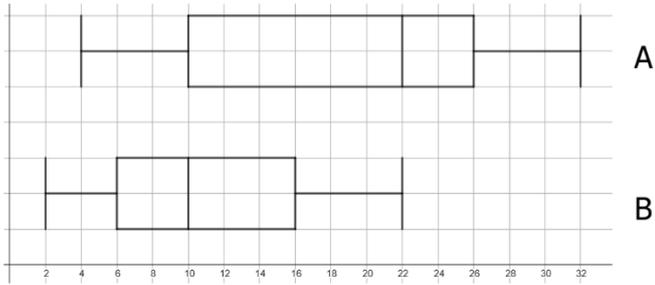
Use the box plots to complete the statements in the table below stating whether the stamen is true, false or you can't tell from the box plot.

Statement	True	False	Can't tell
On average class A had higher scores in the test than class B.			
There were 32 questions in the test.			
Class A had more consistent scores in the test than class B.			
75% of class B scored at least 6 marks.			
50% of the students in class A scored between 22 and 32 marks.			
There were the same number of students in each class.			
The lowest scorer was in class A.			
More than 60% of students in class A score at least 10 marks.			
The range of scores in class B was 20 marks.			
25% of students in class A scored exactly 12 marks.			
Nobody in class B had a score of less than 10% in the test.			
25% of students in class A scored at least 26 marks.			
At least ½ of the students in class A equalled or bettered the best mark from class B.			

(4) The cumulative frequency table below shows information about the distance from some towns to a school.

Distance (miles)	Cumulative Frequency
$0 < d \leq 2$	8
$2 < d < 6$	12
$6 < d \leq 8$	32
$8 < d \leq 14$	35
$14 < d \leq 16$	40

(a) Correct the error made in the table.
(b) How many towns had a distance of between 8 and 14 miles from the school?
(c) Plot a cumulative frequency curve on the diagram below labelling each axes.

(d) Find an estimate for the median distance
(e) Find an estimate for the lower quartile, upper quartile and IQR.
(f) Any towns with a distance of between 10 and 16 miles are deemed 'too far' from the school. Find an estimate for the number of towns that are deemed 'too far' from the school
(g) What proportion of the of the towns are less than 6 miles from the school?
(h) The shortest distance of any town from the school was 1 mile and the longest distance was 15. Complete a box plot below using this information.