




COUNTDOWN TO YOUR FINAL MATHS EXAM ... PART 1

	Marks	Actual	  
Q1. Two Way Tables	3		
Q2. Multiples in Context	4		
Q3. Scatter graphs	4		
Q4. Stem & Leaf / Averages	8		
Q5. Product of prime factors/Multiples	5		
Q6. Trial & Improvement	4		
Q7. Questionnaires	6		
Q8. Average from a table	7		
Q9. Estimate of mean / Cumulative Frequency	10		
Q10. Cumulative frequency	2		
Q11. Box Plots	6		

Q1.

Some students went on an activity course.

Each student had to choose one activity from art or drama or music.

There were 41 students.

15 of the students chose music.

30 of the students were girls.

8 of the girls chose art.

No boys chose art.

Equal numbers of boys and girls chose drama.

Draw and complete a two-way table.

(Total for question = 3 marks)

Q2.

Sally is going to buy some packs of blue paint and some packs of white paint.

Blue paint is sold in packs of 12 tubes.

White paint is sold in packs of 15 tubes.

Sally is going to put all the tubes of paint she buys into boxes.

She is going to put 1 tube of blue paint and 1 tube of white paint in each box.

Sally wants to buy the smallest number of packs of blue paint and the smallest number of packs of white paint.

Work out the number of packs of blue paint and the number of packs of white paint she will buy.

.....packs of blue paint

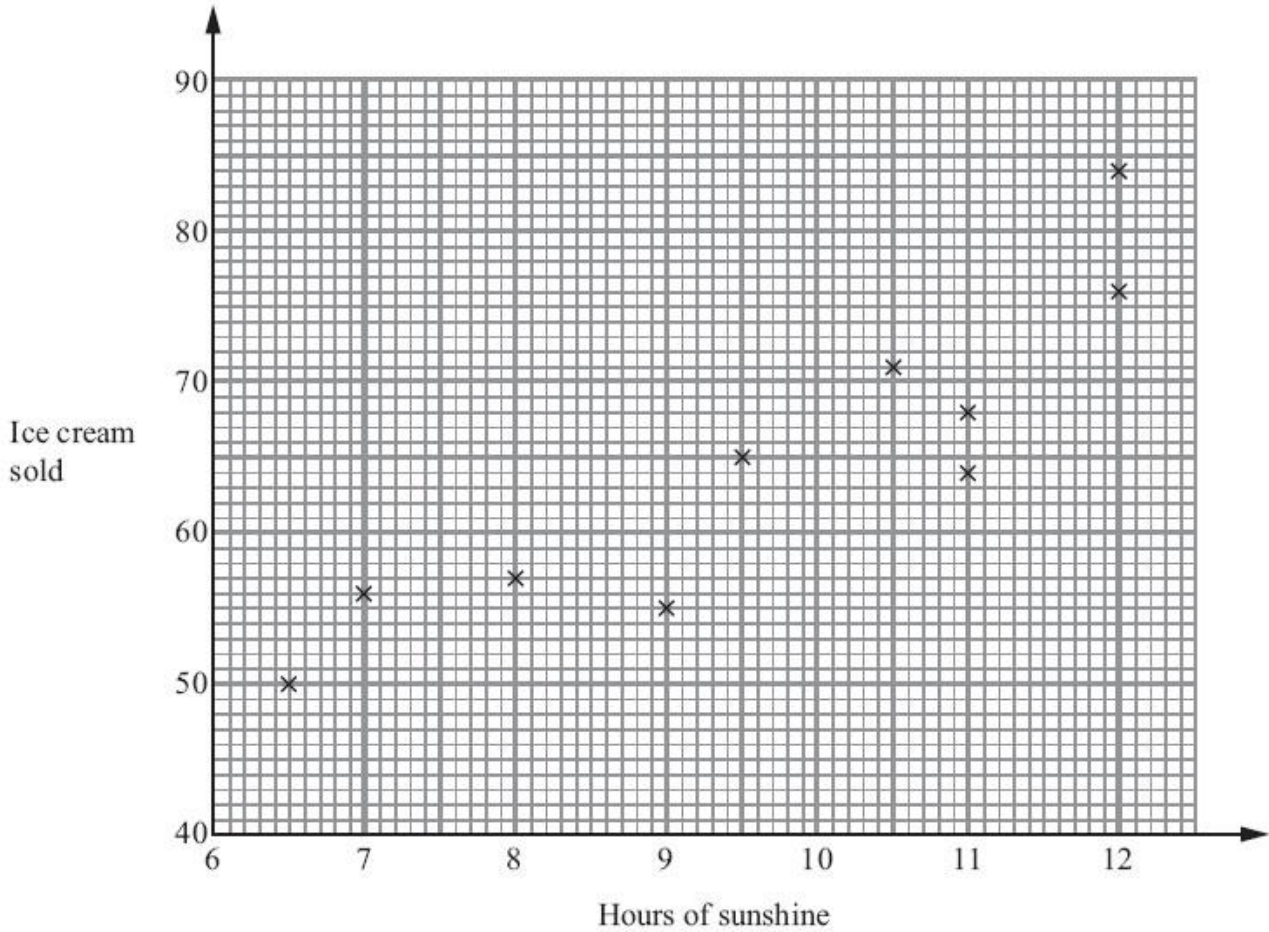
.....packs of white paint

(Total for Question is 4 marks)

Q3.

A beach cafe sells ice creams.
Each day the manager records the number of hours of sunshine and the number of ice creams sold.

The scatter graph shows this information.



On another day there were 11.5 hours of sunshine and 73 ice creams sold.

(a) Show this information on the scatter graph.

(1)

(b) Describe the relationship between the number of hours of sunshine and the number of ice creams sold.

.....

(1)

One day had 10 hours of sunshine.

(c) Estimate how many ice creams were sold.

.....

(2)

(Total for Question is 4 marks)

Q4.

Jamal plays 15 games of ten-pin bowling.

Here are his scores.

72	59	75	66	79
75	66	63	89	76
65	79	77	71	83

(a) Draw an ordered stem and leaf diagram to show Jamal's scores.

(3)

Gill plays 15 games of ten-pin bowling.

The table gives some information about her scores.

Highest score	95
Lowest score	75
Mean score	80

*(b) Compare the distribution of Jamal's scores and the distribution of Gill's scores.

(5)

(Total for Question is 8 marks)

Q5.

(a) Express 48 as a product of its prime factors.

.....
(2)

Buses to Exeter leave a bus station every 20 minutes.
Buses to Plymouth leave the bus station every 16 minutes.
A bus to Exeter and a bus to Plymouth both leave the bus station at 8am.

(b) When will buses to Exeter and to Plymouth next leave the bus station at the same time?

.....
(3)

(Total for Question is 5 marks)

Q6.

The equation $x^3 + 27x = 90$

has a solution between 2 and 3

Use a trial and improvement method to find this solution.

Give your answer correct to one decimal place.

You must show all your working.

$x =$

(Total for question = 4 marks)

Q7.

The manager of a sports centre is planning a new cycle track.
The manager wants to know if many people will use the cycle track.

The manager uses this question on a questionnaire.

How often would you use the cycle track?		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A lot	Quite a lot	Not very often

(a) Write down **two** things wrong with this question.

.....
.....
.....
.....

(2)

(b) Design a better question to find out how often people would use the cycle track.

(2)

The manager plans to give the questionnaire to the first 20 people who get to the sports centre on Tuesday morning.

(c) Give two reasons why this may **not** be a suitable sample.

.....
.....
.....
.....

(2)

(Total for Question is 6 marks)

Q8.

The table gives information about the numbers of badges gained by the younger girls in a Guide group.

Number of badges	Frequency
0	2
1	8
2	4
3	3
4	5
5	3

(a) Write down the mode.

.....
(1)

(b) Work out the mean number of badges gained by these girls.

.....
(3)

There are 15 older girls in the Guide group.
The mean number of badges gained by these 15 older girls is 4.4

(c) Work out the mean number of badges gained by all the girls in the Guide group.

.....
(3)

(Total for question = 7 marks)

Q9.

The table shows information about the ages of 90 employees in a factory.

Age (a years)	Frequency
$15 < a \leq 25$	12
$25 < a \leq 35$	27
$35 < a \leq 45$	18
$45 < a \leq 55$	23
$55 < a \leq 65$	10

(a) Calculate an estimate for the mean age.

.....

(4)

(b) Complete the cumulative frequency table.

Age (a years)	Frequency
$15 < a \leq 25$	
$15 < a \leq 35$	
$15 < a \leq 45$	
$15 < a \leq 55$	
$15 < a \leq 65$	

(1)

(c) On the grid, draw a cumulative frequency graph for your table.

(2)

(d) Use your graph to find an estimate for

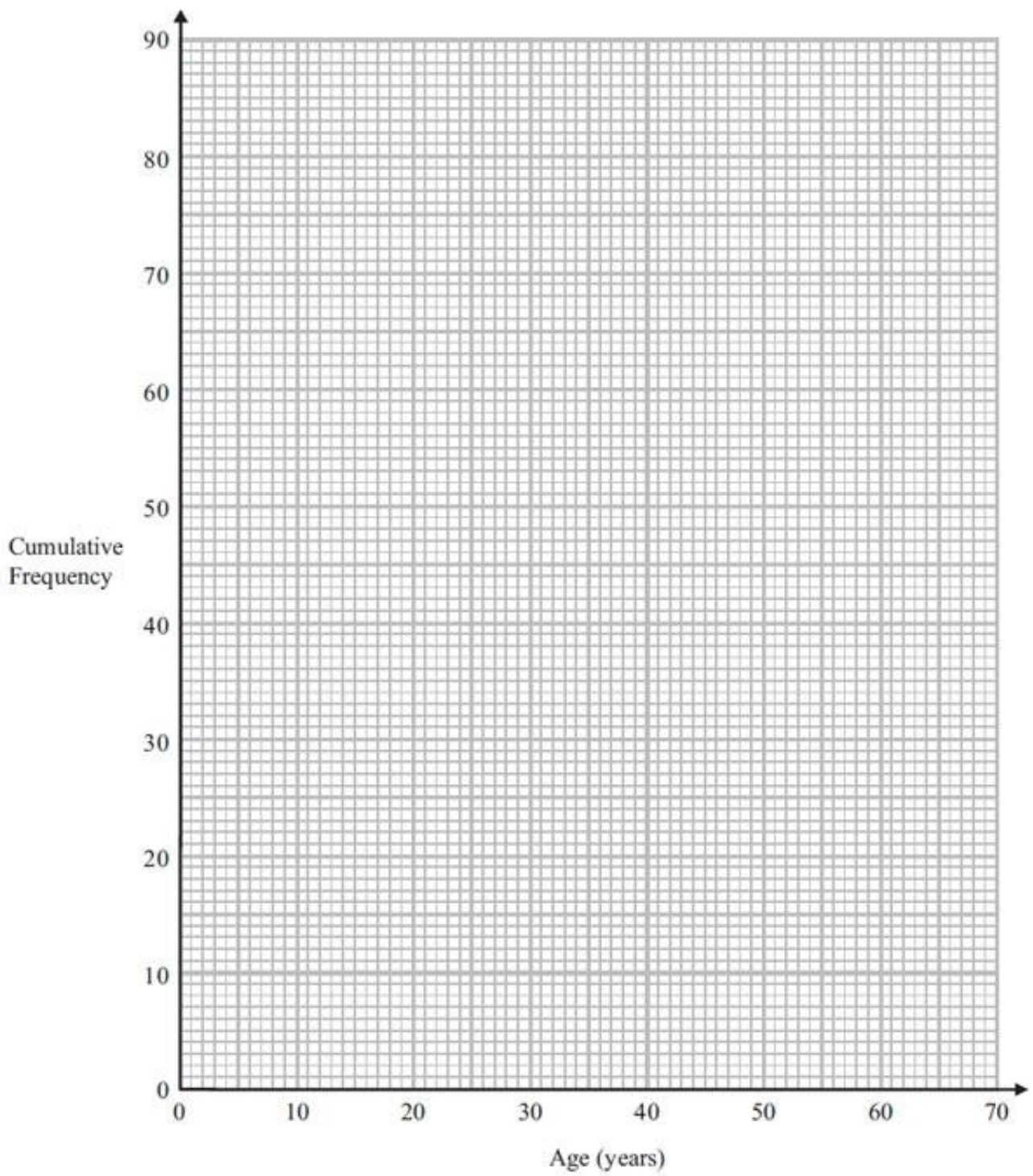
(i) the median age,

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(ii) the number of the employees over the age of 50

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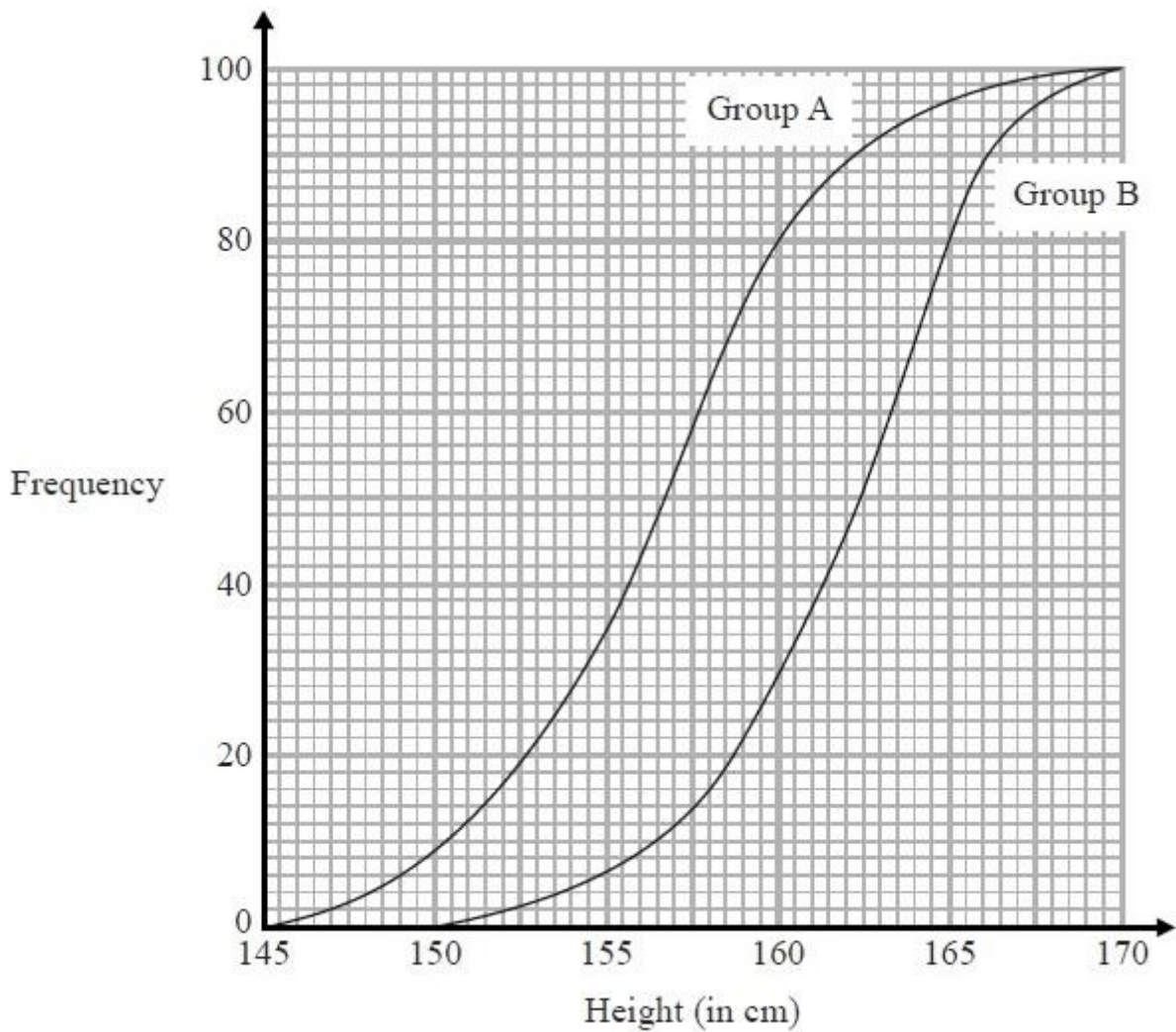
(3)



(Total for Question is 10 marks)

Q10.

The cumulative frequency graphs give information about the heights of two groups of children, group A and group B.



Compare the heights of the children in group A and the heights of the children in group B.

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(Total for Question is 2 marks)

Q11.

Kelly recorded the length of time 48 teachers took to travel to school on Monday.

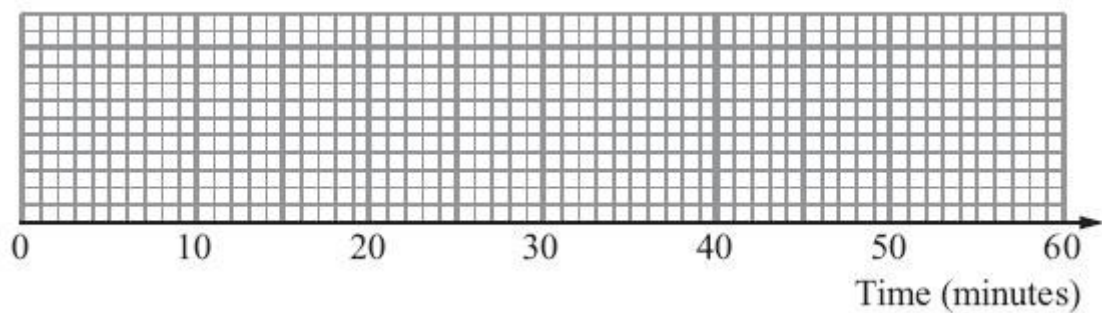
The table shows information about these travel times in minutes.

Least time	5
Greatest time	47
Median	28
Lower quartile	18
Upper quartile	35

(a) Work out the number of teachers with a travel time of 35 minutes or more.

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(2)

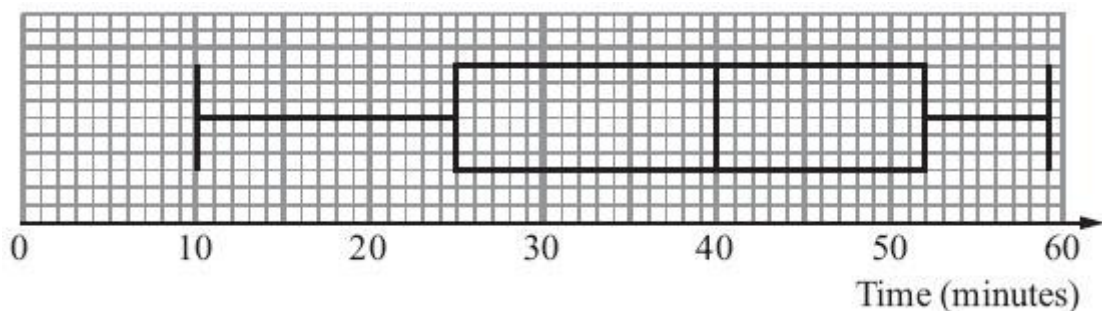
(b) On the grid, draw a box plot to show the information in the table.



(2)

Kelly then recorded the times the same 48 teachers took to travel to school on Tuesday.

The box plot shows some information about these times.



(c) Compare the travel times on Monday and on Tuesday.

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.....
.....

(2)

(Total for Question is 6 marks)