

AQA

A Level

A Level Mathematics

Single Variable Data and
Histograms

Name:

M M E

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Total Marks:

L1- Single Variable Data and Histograms- Questions

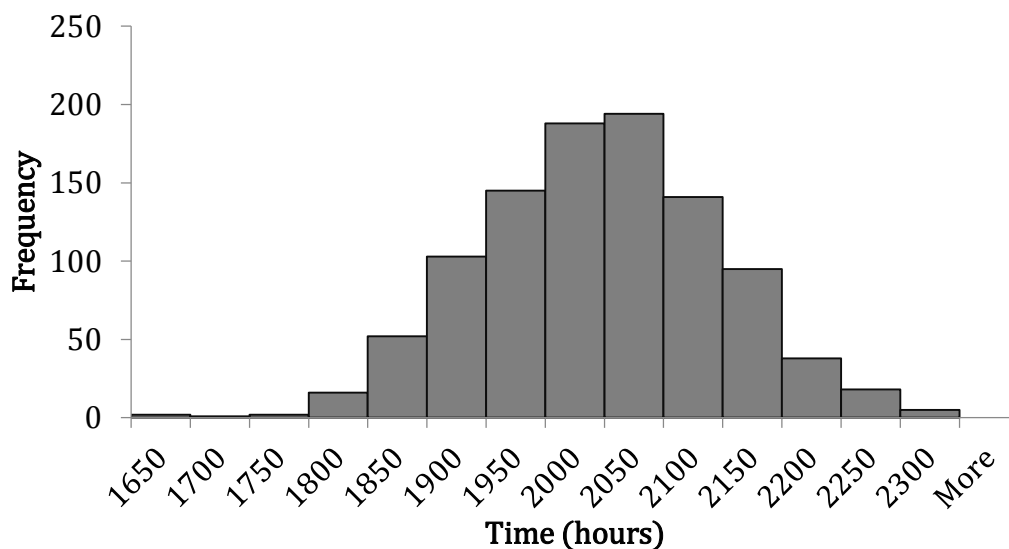
AQA

- 1) The data you have received is in the form *name (frequency)*. The data is as follows:
dog (8); cat (7); guinea-pig (3); hamster (2); fish (5); snake (1); bird (1).
- i) Give a title to these variables that encompasses them all [1]
- ii) What type of data is this, such that you cannot find a mean for it? [1]
- 2) Name a type of graph used to represent:
- i) quantitative data [1]
- ii) qualitative data: discrete [1]
- iii) qualitative data: continuous [1]
- 3) You have a frequency table but the class widths are not consistent, what would be the way of displaying this graphically and why? [2]
- 4) The heights of miniature figures are given in *mm*.
1, 5, 7, 14, 19, 21, 23, 25, 27, 31, 32, 35, 36, 37, 38, 40, 42, 47, 48, 50 [4]
Draw a histogram, made of 5 groups, representing the distribution of heights.
- 5) The following table, used to make a histogram, has been partially filled completed with the data for amount of money, in pence, 94 children spend on sweets every day. Complete the table by calculating the values where the letter *x* is. [6]

<i>Amount (p)</i>	<i>Frequency</i>	<i>Frequency Density</i>
$0 < p \leq 50$	10	<i>x</i>
$50 < p < 75$	<i>x</i>	0.88
$75 < p \leq 105$	<i>x</i>	<i>x</i>
$105 < p \leq 200$	22	<i>x</i>
$200 < p \leq 250$	25	<i>x</i>

There is no requirement to draw the histogram.

- 6) The time 1000 lightbulbs last has been recorded in the table shown and used to produce a histogram. The standard deviation of the data is 100 hours. Using your knowledge of histograms and probability distributions estimate the probability of a bulb lasting less than 2100 hours. [6]



<i>Time</i>	<i>Frequency</i>
$1600 < t \leq 1650$	2
$1650 < t \leq 1700$	1
$1700 < t \leq 1750$	2
$1750 < t \leq 1800$	16
$1800 < t \leq 1850$	52
$1850 < t \leq 1900$	103
$1900 < t \leq 1950$	145
$1950 < t \leq 2000$	188
$2000 < t \leq 2050$	194
$2050 < t \leq 2100$	141
$2100 < t \leq 2150$	95
$2150 < t \leq 2200$	38
$2200 < t \leq 2250$	18
$2250 < t \leq 2300$	5