FREQUENCY TABLES

Foundation Paper Revision

Q1 A survey was conducted investigating the ages of people living at residential addresses in a suburb of Leeds. The results are shown in the table below.

Age	Frequency
$a \geq 85$	2100
$75 \leq a < 85$	5100
$65 \leq a < 75$	8400
$50 \leq a < 65$	17200
$35 \leq a < 50$	19400
$25 \leq a < 35$	14900
$20 \leq a < 25$	8700
$16 \leq a < 19$	5300
$10 \leq a < 16$	7000
$5 \leq a < 10$	6100
$a < 5$	5800

Do the calculations needed to be able to fill the blanks in the extract below. Copy the information into your books and fill in the blanks.

The age distribution of the people of Leeds shows that the modal class is

_____ and the class interval containing the median is _____ .

The estimated mean age of the people of Leeds is _____ .

The age with the highest concentration of people is between 25 and 65 years old with _____% of the population of Leeds falling within this age bracket.

A breakdown of different ages of the people of Leeds is shown below.

In your book, draw a frequency polygon of the information shown in the table.

Q2 Information was sought from a local council about the number of people attending regular activities as members of a club (such as a football club, cubs, scouts, cadets, guides etc.)

The information is shown in the frequency table below.

Age	Number of Participants
$a \geq 85$	114
$75 \leq a < 85$	149
$65 \leq a < 75$	308
$55 \leq a < 65$	425
$45 \leq a < 55$	144
$35 \leq a < 45$	119
$25 \leq a < 35$	238
$15 \leq a < 25$	593
$5 \leq a < 15$	846

i. Find the modal class.
ii. Find the class which contains the median.
iii. Estimate the mean average of this data.

Q3 A chemical company looked at its production of Ammonium Nitrate. The number of kg the chemical company produced each day are split into classes. The table below shows the number of days that each particular class was met over a six-month period.

Weight kg	Number of days
$w < 5000$	37
$5000 \leq w < 8000$	33
$8000 \leq w < 10000$	55
$10000 \leq w < 14000$	49
$w \geq 14000$	8

i What is the modal class?

ii In which class is the median?

iii Find the estimated mean average.

iv Give an estimate of the total mass of Ammonium Nitrate produced.

Q4 A student carried out a survey to find how many hours people were using a computer each week. Her results are shown in the table below.

Time using a Computer	Frequency
$100 \leq t \leq 168$	12
$80 \leq t < 100$	181
$60 \leq t < 80$	86
$40 \leq t < 60$	95
$20 \leq t < 40$	54
$0 \leq t < 20$	32

i What is the modal class?

ii In what class is the median?

iii Provide an estimated mean of the data?

iv Draw a frequency polygon representing this data.

Q5 Cars were tested running round Brands Hatch. The times were recorded in the table below.

Time in seconds	Frequency
$48 \leq t < 53.5$	13
$53.5 \leq t < 55$	24
$55 \leq t < 58.5$	30
$58.5 \leq t < 60$	51
$60 \leq t < 65$	24

i What is the modal class?

ii In what class is the median?

iii Provide an estimated mean of the data?

iv Draw a frequency polygon representing this data.