



# FUNCTIONAL SKILLS MATHEMATICS

AQA | Edexcel | City & Guilds | Open Awards | NCFE | Highfield

Level 2

## Estimating the Mean

### Materials

- You **cannot** use a calculator for **questions** with this symbol.



### Instructions

- Answer **all** questions.
- Answer questions on separate paper.

### Information and Advice

- The marks for each question are shown in brackets – use this as a guide on how long to spend on each question.
- Read each question carefully before you answer it.
- Check you answers.

**Q1** The time taken (to the nearest minute) to run a half marathon is recorded for 300 people, and recorded in a table below. Populate the rest of the table and use this information to estimate the mean time taken. Give your answer to the nearest whole number.

Time	Frequency	Midpoint	Midpoint × Frequency
60 – 80	53		
81 – 100	91		
101 – 120	94		
121 – 140	62		
<b>Total</b>	<b>300</b>	<b>Total</b>	

[4 marks]

**Q2** A teacher asks his pupils how many pets they have. The table below gives the results. Populate the rest of the table and use this information to estimate the mean number of pets. Give your answer to the nearest whole number.

Number of Pets	Frequency	Midpoint	Midpoint × Frequency
0	7		
1 – 2	12		
3 – 6	4		
7 – 9	2		
<b>Total</b>	<b>25</b>	<b>Total</b>	

[4 marks]

**Q3**

A hospital records the number of outpatients in A&E, every day, for a year. Populate the table below and use this information to estimate the average number of outpatients in A&E per day. Give your answer to the nearest whole number.

Number of Outpatients	Frequency	Midpoint	Midpoint × Frequency
0 – 99	116		
100 – 199	112		
200 – 299	77		
300 – 399	60		
<b>Total</b>	<b>365</b>	<b>Total</b>	

[4 marks]

**Q4**

The manager of a leisure centre compiles a table of members. Use this information to estimate the average age of a member at the centre. Give your answer to the nearest whole number.

Age	Frequency
0 – 17	155
18 – 30	305
31 – 64	239
65 – 75	83
<b>Total</b>	<b>782</b>

[4 marks]

**Q5** Mark notes the number of visitors to a park in a day, for each day in June. Estimate the average number of visitors to the park on a day in June. Give your answer to the nearest whole number.

Number of Visitors	Frequency
0 – 19	2
20 – 39	5
40 – 59	8
60 – 79	11
80 – 100	4
<b>Total</b>	<b>30</b>

**[4 marks]**

**Q6** A shop tracks the number of sales it makes in a week, for a year. The data is given in the table below.

Number of items sold	Frequency
0 – 10	2
11 – 20	10
21 – 30	27
31 – 40	7
41 – 50	6
<b>Total</b>	<b>52</b>

**6(a)** Use this information to estimate the mean number of items sold in a week. Give your answer to the nearest whole number.

**[4 marks]**

**6(b)** Given that the average price of an item sold in-store is £25, estimate the shop's yearly income.

**[2 marks]**