

Estimating the mean from a grouped frequency table

Grade 4 | Foundation and Higher | 9 questions, 35 marks

GCSE Maths topic practice



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Name: _____ **Date:** _____ **Score:** _____ / 35

- 1** The table shows the number of children in each of 20 families.

Number of children	Frequency
0	3
1	8
2	6
3	3

Work out the mean number of children per family.

(3 marks)

Answer _____

- 2** The grouped frequency table shows the time, t minutes, that 30 pupils took to get to school.

Time (t minutes)	Frequency
$0 < t \leq 10$	4
$10 < t \leq 20$	9
$20 < t \leq 30$	12
$30 < t \leq 40$	5

- Write down the modal class.
- Work out an estimate for the mean time.

(4 marks)

Answer _____

- 3 The table shows information about the time, t minutes, that 30 customers waited at a garage.

Time (t minutes)	Frequency
$0 < t \leq 10$	4
$10 < t \leq 20$	9
$20 < t \leq 30$	12
$30 < t \leq 40$	5

Work out an estimate for the mean waiting time.

(3 marks)

Answer _____

- 4 The table shows information about the masses, m kg, of 40 parcels handled by a courier.

Mass (m kg)	Frequency
$0 < m \leq 2$	7
$2 < m \leq 4$	10
$4 < m \leq 6$	14
$6 < m \leq 8$	9

Calculate an estimate for the mean mass of the parcels.

(3 marks)

Answer _____

- 5 The table shows information about the lengths, l cm, of 40 courgettes grown on an allotment.

Length (l cm)	Frequency
$10 < l \leq 20$	6
$20 < l \leq 30$	11
$30 < l \leq 40$	13
$40 < l \leq 50$	10

- a. Write down the class interval that contains the median.
b. Work out an estimate for the mean length.

(4 marks)

Answer _____

- 6 The table shows information about the times, t seconds, taken by 40 swimmers to complete one length of a pool.

Time (t seconds)	Frequency
$20 < t \leq 30$	8
$30 < t \leq 40$	15
$40 < t \leq 50$	12
$50 < t \leq 60$	5

- a. Work out an estimate for the mean time.
b. Explain why your answer to part (a) is an estimate.

(4 marks)

Answer _____

- 7 The table shows the heights, h cm, of 20 plants.

Height (h cm)	Frequency
$140 \leq h < 150$	3
$150 \leq h < 160$	8
$160 \leq h < 170$	6
$170 \leq h < 180$	3

- a. Work out an estimate for the mean height.
b. Explain why your answer to part (a) is only an estimate.

(3 marks)

Answer _____

- 8 The table shows information about the distances, d km, that 40 employees travel to work.

Distance (d km)	Frequency
$0 < d \leq 5$	9
$5 < d \leq 10$	16
$10 < d \leq 15$	11
$15 < d \leq 20$	4

- a. Work out an estimate for the mean distance travelled.
b. Write down the modal class.
c. Work out the fraction of the employees who travel more than 10 km. Give your fraction in its simplest form.

(5 marks)

Answer _____

9

The table shows information about the heights, h cm, of 40 students.

Height (h cm)	Frequency
$140 < h \leq 150$	6
$150 < h \leq 160$	14
$160 < h \leq 170$	16
$170 < h \leq 180$	4

- Work out an estimate for the mean height.
- Work out the percentage of the students who are more than 160 cm tall.
- Explain why your answer to part (a) is only an estimate.

(6 marks)

Answer _____

End of questions | Total 35 marks