

Mathematics

Level 2 Interpreting Data From Frequency Tables

Interpreting Data From Frequency Tables

- 1 A group of employees were asked how long their bus journey to work takes. Calculate the mean time of the bus journey, using the raw data in the table below.

Length of journey in minutes	Number of people	Total minutes
10	5	$10 \times 5 = 50$
15	12	$15 \times 12 = 180$
20	10	$20 \times 10 = 200$
25	15	$25 \times 15 = 375$
30	9	$30 \times 9 = 270$
35	8	$35 \times 8 = 280$
Total	59	1355

Answer	Mean of time taken to travel to work = 23 minutes $1355 \div 59 = 22.96$. Rounded to the nearest whole number = 23 23 minutes is the mean time.
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- 2 The distance travelled by 25 employees, who cycle to work, was also recorded. Calculate the median distance travelled, using the raw data in the table below.

Distance travelled in km	Number of people (frequency)	Cumulative frequency
25	5	$5 + 0 = 5$
26	4	$5 + 4 = 9$
27	3	$9 + 3 = 12$
28	4	$12 + 4 = 16$
29	5	$16 + 5 = 21$
30	4	$21 + 4 = 25$

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Answer	<p>Median distance travelled = 28km</p> <p>Number of values calculated by cumulative frequency = 25</p> <p>The middle value is the 13th value. This falls in the 28km category. You can check this by writing each value in order:</p> <p>Ordered values: 25, 25, 25, 25, 25, 26, 26, 26, 26, 27, 27, 27, <u>28</u>, 28, 28, 28, 29, 29, 29, 29, 29, 30, 30, 30, 30</p> <p>13th value = 28</p>
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- 3** The employees were asked how they travelled to work each day. Calculate the mode, using a frequency calculation from the raw data in the table below.

Mode of travel	Bus	Cycle	Car	Walk	Tram
Monday	15	10	15	18	12
Tuesday	13	6	11	12	10
Wednesday	9	7	8	10	8
Thursday	10	5	6	7	7
Friday	6	8	9	7	9
Total	53	36	49	54	46

Answer	<p>Mode for the way people travel to work = walk.</p> <p>Walk has the highest frequency at 54.</p>
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