



Estimate of the Mean

ANSWERS



Give answers to 2 decimal places where necessary.

Section A

Calculate an estimate of the mean for the following.

Time (t hours)	Frequency	Mid-Value	fx
$0 \leq t < 1$	17	0.5	8.5
$1 \leq t < 2$	51	1.5	76.5
$2 \leq t < 3$	18	2.5	45
$3 \leq t < 4$	19	3.5	66.5
	105		196.5

Estimate of the mean:

$$196.5 \div 105 = 1.87 \text{ hours}$$

Height (h cm)	Frequency	Mid-Value	fx
$140 \leq h < 150$	5	145	725
$150 \leq h < 160$	26	155	4030
$160 \leq h < 170$	59	165	9735
$170 \leq h < 180$	11	175	1925
	101		16415

Estimate of the mean:

$$16415 \div 101 = 162.52 \text{ cm}$$

Age (years)	Frequency	Mid-Value	fx
9 – 12	3	10.5	31.5
13 – 16	16	14.5	232
17 – 20	28	18.5	518
21 – 24	33	22.5	742.5
25 – 28	9	26.5	238.5
	89		1762.5

Estimate of the mean:

$$1762.5 \div 89 = 19.80 \text{ years}$$

Temperature (T °C)	Frequency	Mid-Value	fx
36.0 –	45	36.2	1629
36.4 –	39	36.6	1427.4
36.8 –	41	37.0	1517
37.2 –	22	37.4	822.8
37.6 – 38.0	14	37.8	529.2
	161		5925.4

Estimate of the mean:

$$5925.4 \div 161 = 36.80^\circ\text{C}$$

Section B

The table shows the distribution of marks in a test.

Calculate an estimate of the mean. *Notice that the class intervals are not all equal.* 27.06

Mark	Number of students
0 – 14	10
15 – 24	21
25 – 39	24
40 – 44	12
45 – 50	3