

Week 7

PART 1: Practice problem 1 → 30th March

For random sample of 25 students from large class, the accompanying table shows the amount of time spent studying for a test.

Study Time (Hours)	Number of students (f_i)	f_i'	x_i (mid-point)	$f_i x_i$	
0<4	3	3	2	6	
4<8	7	10	6	42	
8<12	8	18	10	80	
12<16	5	23	14	70	
16<20	2	25	18	36	
Sum	25			234	

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- Estimate measures of location.
- Estimate measures of variability

Solution

Measures of location

- The Mode

$$Mo = L_{Mo} + \frac{d_1}{d_1 + d_2} w =$$

The answer is the following:

- The Median

$$Me = L_{Me} + \frac{n/2 - f'_{Me-1}}{f_{Me}} w =$$

The answer is the following:

- The Lower Quartile

$$Q_1 = L_{Q_1} + \frac{n/4 - f'_{Q_1-1}}{f_{Q_1}} w =$$

The answer is the following:

- The Upper Quartile