Practice questions

and median

1. Calculate Arithmetic, ~~Geometric and Harmonic~~ mean of

2, 3, 3, [4.5], 6, 7, 10

✓ (a) 3, 4, 7, 3, 5, 2, 6, 10   mean = 5, median = 4.5, mode = 3
✓ (b) 8, 10, 12, 14, 7, 16, 5, 7, 9, 11, 15   mean = 10.36, med = 10, mode = 7
(c) 17, 18, 16, 17, 17, 14, 22, 15, 16, 17, 14, 12
(d) 108, 99, 112, 111, 108
(e) 64, 66, 65, 61, 67, 61, 57
(f) 21, 30, 22, 16, 24, 28, 16, 17

2. Calculate Arithmetic Mean, mode and median of following series

No of Goal	#students	f·x	cum. freq.
0	8	0	8 7, 2.5 x
1	10	10	18 7, 2.5 x
2	12	24	30 > 2.5 ✓
3	3	9	33
4	5	20	38
5	2	10	40 ← N

N = 40   73

$$\text{mean} = \frac{\Sigma fx}{N} = \frac{73}{40} = 1.8$$

$$\text{Median} = \left(\frac{N+1}{2}\right) = \frac{40+1}{2} = 20.5$$

$$\boxed{\text{median} = 2}$$

3. Calculate Arithmetic Mean, mode and median of following series

modal class
median class →

Daily Demand	Frequency	m	f·m	c.f.	
0-5 2.5	4	2.5	10	④	7 10 x
5-10	⑧	7.5	60	12	7 10 ✓
10-15	6	12.5	75	18	
15-20 17.5	2	17.5	35	20 ← N	

N = 20   Σfm = 180

$$\text{mean} = \frac{\Sigma f \cdot m}{N} = \frac{180}{20} = 9$$

median class = 5-10, f = 8,
c.f = 4

$$\text{median} = L + \left(\frac{N/2 - cf}{f}\right) \times i$$

$$= 5 + \left(\frac{10-4}{8}\right) \times 5$$

$$\boxed{\text{median} = 8.75}$$

L = 5, i = 5,
Δ1 = 8-4 = 4
Δ2 = 8-6 = 2
mode = 8.33

$$\text{mode} = L + \frac{\Delta 1}{\Delta 1 + \Delta 2} \times i$$
=

4. Find arithmetic mean, median and mode of the following series

50-60 | 10
60-70 | 10
70-90 | 21
90-120 | 30

Wages	Workers
~~Under Rs. 60~~ 50-60	3
Rs. 60 and under Rs. 70	11
Rs. 70 and under Rs. 80	16
Rs. 80 and under Rs. 90	15
Rs. 90 and under Rs. 100	10
Rs. 100 and under Rs. 110	8
Rs. 110 and under Rs. 120	6

5. Find the arithmetic mean, median and mode from following chart

Cars sold per day
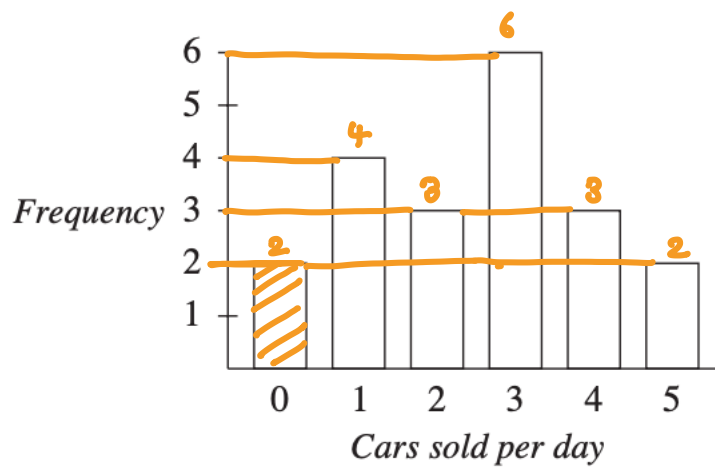
6. The marks obtained by 25 pupils on a test are shown below. Calculate the arithmetic mean, mode and median by converting it into frequency table.

3 4 5 6 5 5 1 2 3 3 4 7 5 1 5 2 5 6 5 4 6 4 5 4 3

7. A survey of 100 households in an American town asked how many cars there were in each household The results are given below. Calculate the mean number of cars per household.

No. of cars	Frequency
0	5
1	70
2	21
3	3
4	1

8. The survey in question 1 also asked how many TV sets there were in each household. The results are given below. Calculate the mean number of TV sets per household.

No. of TV Sets	Frequency
0	2
1	30
2	52
3	8
4	5
5	3