

## Practice Questions

1 a) find the mean of the following:

range	frequency
1-10	2
11-20	7
21-30	10
31-40	3
41-50	1

Grouped Data  $\Rightarrow$

$x$	$f$	$M$	$MF$
0.5-10.5	2	5.5	11
10.5-20.5	7	15.5	108.5
20.5-30.5	10	25.5	255
30.5-40.5	3	35.5	106.5
40.5-50.5	1	45.5	45.5
	<u>23</u>		<u>526.5</u>

$$\text{Mean} = \frac{\sum MF}{N} = \frac{526.5}{23}$$

$$= 22.89$$

1 b)

range	frequency
1-10	2
10-20	7
20-30	15
30-40	10
40-50	11
50-60	5

x	f	M	MF
1-10	2	5	10
10-20	7	15	105
20-30	15	25	375
30-40	10	35	350
40-50	11	45	495
50-60	<u>5</u>	55	<u>275</u>
	50		1610

$$\text{Mean} = \frac{\sum MF}{N} = \frac{1610}{50}$$

$$= 32.2$$

1 c) Exam score	No. of students
51-60	4
61-70	8
71-80	15
81-90	8
91-100	5

X	f	M	MF
50.5 - 60.5	4	55.5	222
60.5 - 70.5	8	65.5	524
70.5 - 80.5	15	75.5	1132.5
80.5 - 90.5	8	85.5	684
90.5 - 100.5	5	95.5	477.5
	<u>40</u>		<u>3040</u>

$$\text{Mean Score} = \frac{3040}{40} = 76$$

2 find the means for the entire group of workers for the following data.

$$\text{Combined Mean} = \frac{\bar{X}_1 N_1 + \bar{X}_2 N_2}{N_1 + N_2}$$

	Group 1	Group 2
Mean Wages	75	60
No. of workers	1000	1500

Mean for entire group -

$$= \frac{75(1000) + 60(1500)}{1000 + 1500}$$

$$= \frac{75000 + 90000}{2500} = 66$$



3. Compute mean for entire group

Medical examination	No. examined	Mean weight
A	50	113
B	60	120
C	90	115

$$\text{Combined Mean} = \frac{\bar{X}_1 N_1 + \bar{X}_2 N_2 + \bar{X}_3 N_3}{N_1 + N_2 + N_3}$$

$$= \frac{113(50) + 120(60) + 115(90)}{50 + 60 + 90}$$

$$= \frac{5650 + 7200 + 10350}{200}$$

$$= \frac{23200}{200} = 116$$