

Practice Questions

① find the mean of the following.

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

$\Rightarrow x$	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>

$$\bar{x} = \frac{\sum mf}{N} = \frac{526.5}{23} = 22.8$$

$$\bar{x} = 22.8$$

Range	frequency	m	mf
0 - 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	5	55	<u>275</u>
			<u>1610</u>

$$\bar{x} = \frac{\sum mf}{N} = \frac{1610}{50} = 32.2$$

$$\bar{x} = 32.2$$

② Exam score

No. of students

51 - 60

4

60 - 70

8

71 - 80

15

81 - 90

8

91 - 100

5

\bar{x}	f	mf	\bar{x}	f	mf
50.5 - 60.5	4	202	60.5 - 70.5	8	55.5
70.5 - 80.5	15	105	80.5 - 90.5	8	85.5
90.5 - 100.5	5	45			
	<u>40</u>	<u>3043</u>			

$$\bar{x} = \frac{\sum mf}{N} = \frac{3043}{40} = 76$$

$$\bar{x} = 76$$

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

Group 1

Group 2

Mean wages

75

60

No. of workers

1000

1500

$$\bar{x}_1 = 75 \quad \bar{x}_2 = 60$$

$$N_1 = 1000 \quad N_2 = 1500$$

$$\bar{x}_{12} = \frac{\bar{x}_1 N_1 + \bar{x}_2 N_2}{N_1 + N_2}$$

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

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

$$= \frac{165000}{2500} = 66$$

$$\bar{x}_{12} \Rightarrow 66$$

③ Compute mean for entire group.

Medical examination	No. examined	Mean weight (1)
A	50 (N_1)	113 (X_1)
B	60 (N_2)	120 (X_2)
C	90 (N_3)	115. (X_3)

$$\bar{x} = \frac{N_1 \bar{x}_1 + N_2 \bar{x}_2 + N_3 \bar{x}_3}{N_1 + N_2 + N_3}$$

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

$$= \frac{5650 + 7200 + 10350}{100} = 116$$

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

$$\bar{x} = 116$$