

- 1) The following are the heights (in meters) of a group of basketball players:

1.8, 1.9, 2.0, 1.7, 1.8, 1.9, 1.6, 2.0, 1.8, 1.9, 1.8

a) Find the modal height of the group.	1.8 (most frequent)
b) Find the median height of the group.	Arrange in ascending order, then find the middle value. 1.8
c) Find the mean height of the group, correct to one decimal place.	Add the heights, then divide by 11. $20.2/11 = 1.8$
d) When the 12 th member joined the group, the mean height became 1.9m exactly. What was the height of the 12 th member?	$\frac{20.2 + x}{12} = 1.9$ $20.2 + x = 22.8$ $x = 2.6$

- 2) The table below shows the number of errors made by Peter in typing a report.

Number of errors	0	1	2	3	4	5	6
Number of pages	1	3	10	7	4	3	2

a) How many pages were there in Peter's report.	Add the number of pages (2 nd row) = 30 pages
b) What was the percentage of pages with less than 3 errors?	No. of pages with less than 3 errors = $1+3+10 = 14 = .47$ or 47% Total number of pages 30 30
c) What was the mode of the distribution?	There are 10 pages (the most) with 2 errors, so the mode is 2.
d) Calculate the mean number of errors made by Peter.	Multiply row 1 and 2. Add these numbers, then divide by 30. $\frac{0 + 3 + 20 + 21 + 16 + 15 + 12}{30} = \frac{87}{30} = 2.9$

- 3) In a Mathematics test, the mean score of 30 students was 12.4. Mary, one of the 30 students, scored 8 marks. It later transpired that her score was recorded wrongly. After correcting Mary's score, the new mean score of the 30 students became 12.6. What was Mary's actual score?

$$12.4 = \frac{x + 8}{30}$$

$$372 = x + 8$$

$$372 - 8 = x$$

$$364 = x$$

$$12.6 = \frac{364 + y}{30}$$

$$378 = 364 + y$$

$$378 - 364 = y$$

$$14 = y \text{ (Mary's actual score)}$$

- 4) The table gives the frequency distribution of the mass of 200 steel bars, to the nearest kg. Calculate the mean and median mass of the 200 steel bars.

Mass (kg)	Mid-value (x)	Number of Steel Bars (f)	Cumulative Frequency (cf)	fx
20 – 29	24.5	32	32	784
30 – 39	34.5	38	32 + 38 = 70	1311
40 – 49	44.5	64	70 + 64 = 134	2848
50 – 59	54.5	35	134 + 35 = 169	1907.5
60 – 69	64.5	22	169 + 22 = 191	1419
70 – 79	74.5	9	191 + 9 = 200	670.5

a) mean mass

$$\frac{\text{sum of } fx}{\text{total } f} = \frac{8940}{200}$$

$$= 44.7$$

b) median mass

$$= \left(\frac{100 - 70}{64} \right) (10) + 39.5$$

$$= 44.1875$$

$$= 44.2$$

- 5) The table shows the number of fillings of a class of 40 students had at the time of a dental inspection.

Number of fillings	0	1	2	3	4	5	6
Number of students	1	4	8	x	9	y	2

- a. Write down an equation for the total number students during dental inspection.

$$24 + x + y = 40 \quad \text{or } x + y = 16$$

- b. If the mean number of the fillings per pupil is 3.2, write down an equation for solving the mean.

$$\frac{68 + 3x + 5y}{40} = 3.2 \quad \text{or } 3x + 5y = 60$$

- c. Solve for x and y. (Hint: You can use systems of equations to solve for x and y)

$$\begin{array}{r} x + y = 16 \quad (\text{mult. by } -3) \quad -3x - 3y = -48 \\ 3x + 5y = 60 \\ \hline 2y = 12 \\ y = 6 \end{array}$$

$$\begin{array}{r} x + 6 = 16 \\ x = 10 \end{array}$$