



Grouped Data. Finding Averages.

Continuous Data.

For each of the following tables find:-

- the modal class interval,
- an **estimate** for the mean,
- the class interval where the median lies.



- 1). The weights of a group of people is measured as follows:

| Weight, w, Kg. | Frequency. |
|------------------|------------|
| $40 < w \leq 50$ | 2 |
| $50 < w \leq 60$ | 15 |
| $60 < w \leq 70$ | 19 |
| $70 < w \leq 80$ | 10 |
| $80 < w \leq 90$ | 1 |

- 2). The heights of a bunch of tulips is recorded as follows:

| Height, h, cm. | Frequency. |
|------------------|------------|
| $0 < h \leq 4$ | 1 |
| $4 < h \leq 8$ | 3 |
| $8 < h \leq 12$ | 15 |
| $12 < h \leq 16$ | 19 |
| $16 < h \leq 20$ | 7 |

- 3). The heights of a class of Year 10 pupils were found as follows:

| Height, h, cm. | Frequency. |
|--------------------|------------|
| $120 < h \leq 140$ | 2 |
| $140 < h \leq 160$ | 5 |
| $160 < h \leq 180$ | 18 |
| $180 < h \leq 200$ | 7 |

- 4). Year 11 ran 1 mile, here are the times.

| Time, t, secs. | Frequency. |
|--------------------|------------|
| $240 < t \leq 250$ | 3 |
| $250 < t \leq 260$ | 18 |
| $260 < t \leq 270$ | 24 |
| $270 < t \leq 280$ | 56 |
| $280 < t \leq 290$ | 72 |
| $290 < t \leq 300$ | 27 |
| $300 < t \leq 310$ | 10 |



- 5). In a Health Centre, the times patients had to wait was recorded as follows:

| Time, t, mins. | Frequency. |
|------------------|------------|
| $0 < t \leq 5$ | 19 |
| $5 < t \leq 10$ | 23 |
| $10 < t \leq 15$ | 23 |
| $15 < t \leq 20$ | 7 |
| $20 < t \leq 25$ | 3 |

- d). What percentage were seen within 15 minutes. or less of arriving at the Health Centre?

- 6). Here are the weights of all the new born babies recorded by a hospital for May.

| Weight, w, lbs. | Frequency. |
|-----------------|------------|
| $0 < w \leq 3$ | 7 |
| $3 < w \leq 6$ | 46 |
| $6 < w \leq 9$ | 78 |
| $9 < w \leq 12$ | 9 |

- d). What percentage of the babies weighed over 6 lbs at birth ?

- 7). Here are the heights of 65 daffodils.

| Height, h, cm. | Frequency. |
|------------------|------------|
| $0 < h \leq 9$ | 21 |
| $9 < h \leq 18$ | 19 |
| $18 < h \leq 27$ | 21 |
| $27 < h \leq 36$ | 4 |

- d). What percentage are 27 cm or smaller ?

- 8). 120 little fingers were measured.

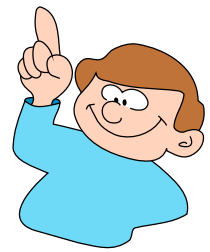
| Size, s, mm. | Frequency. |
|------------------|------------|
| $50 < s \leq 53$ | 36 |
| $53 < s \leq 56$ | 48 |
| $56 < s \leq 59$ | 28 |
| $59 < s \leq 62$ | 8 |

- d). What percentage were more than 53 but 59 mm or less long ?

Discrete Data.

For each of the following tables find:-

- the modal class interval,
- an **estimate** for the mean,
- the class interval where the median lies



- 1). A class did a maths test out of 14 marks. Here are the scores.
- 5). A class did an English test out of 30 marks. Here are the scores.

| Mark. | Frequency. |
|---------|------------|
| 0 - 2 | 3 |
| 3 - 5 | 6 |
| 6 - 8 | 12 |
| 9 - 11 | 15 |
| 12 - 14 | 4 |

| Mark. | Frequency. |
|---------|------------|
| 11 - 14 | 7 |
| 15 - 18 | 13 |
| 19 - 22 | 8 |
| 23 - 26 | 3 |
| 27 - 30 | 1 |

- 2). Here are the number of yellow cards given out at football matches, per week, over the last season.

| No. of Cards. | Frequency. |
|---------------|------------|
| 10 - 14 | 17 |
| 15 - 19 | 11 |
| 20 - 24 | 7 |
| 25 - 29 | 4 |
| 30 - 34 | 1 |

- d). What percentage of the class scored over 18 marks ?

- 6). Here are the I.Q.'s of the teachers in this school.

| I.Q. | Frequency. |
|-----------|------------|
| 121 - 130 | 2 |
| 131 - 140 | 23 |
| 141 - 150 | 34 |
| 151 - 160 | 1 |

- 3). Here are the total number of goals scored by all the hockey teams in a league last season.

| No. of Goals. | Frequency. |
|---------------|------------|
| 20 - 28 | 8 |
| 29 - 37 | 4 |
| 38 - 46 | 8 |
| 47 - 55 | 3 |

- d). What percentage of the teachers have an I.Q. above 140 ?

- 7). Here are Year 9 S.A.T. percentages.

| Percentage. | Frequency. |
|-------------|------------|
| 45 - 58 | 47 |
| 59 - 72 | 63 |
| 73 - 86 | 54 |
| 87 - 100 | 26 |

- 4). At a darts championship 90 players had three darts to throw, here are their scores.

| Score. | Frequency. |
|-----------|------------|
| 146 - 152 | 23 |
| 153 - 159 | 23 |
| 160 - 166 | 18 |
| 167 - 173 | 14 |
| 174 - 180 | 12 |

- d). What percentage are below 73%?

- 8). Here are the breaks in a snooker contest.

| Break. | Frequency. |
|-----------|------------|
| 0 - 29 | 60 |
| 30 - 59 | 72 |
| 60 - 89 | 43 |
| 90 - 119 | 29 |
| 120 - 149 | 16 |



- d). What percentage scored over 159 ?

- d). What percentage breaks were between 60 and 119 ?