Exercise 1

1. Find the mean and range of :-
   (a) 2, 3, 6, 5, 2, 9, and 8
   (b) 41, 37, 53, and 45
   (c) 13, 12, 12, 15, 14 and 15
   (d) 3·1, 2·5, 3·8, 3·4 and 3·9.

2. In the first six months of the church lottery, £6360 in prizemoney was paid out.
   How much on average was paid each month?

3. Josh is a computer games whizkid.
   He completed each level of DEATHGAME in the following times (in minutes) :-
   8·6, 9·5, 8·8, 7·9, 10·1, 8·9, 8·1, 8·3 and 9.
   What was his mean time per level?

4. In the first four weeks of selling ice-cream, Tony had made a profit of £876.
   (a) How much was the average profit each week?
   (b) How much was the average profit per day?

5. In their last five home games the following scores were recorded at Hawick rugby club :-
   15 - 10, 12 - 5, 0 - 25, 21 - 15, 7 - 5.
   (In all home games Hawick scores come first).
   (a) Find the range of the (i) home scores, (ii) away scores.
   (b) Find the average points Hawick scored.
   (c) Find the average points of the away teams.
   (d) Why do you think the away teams average is higher?

6. The mean weight of 3 boys is 37 kg.

   Andy weighs 36 kg, Bill weighs 34 kg. Calculate the weight of Colin.
Exercise 2

1. The ages of the people at a disco were recorded :-
   17 18 18 19 20 21 21 20 16 17 18
   19 20 20 21 19 20 21 18 18 19 18

   (a) Organise the data into a frequency table using tally marks.
   (b) How many pupils were older than 19 years old.
   (c) What was the most common age at the disco?

<table>
<thead>
<tr>
<th>Age</th>
<th>tally</th>
<th>frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
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<td>18</td>
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</tbody>
</table>

2. The time taken for each music track at the disco were as follows (in minutes) :-
   11  8  12  13  7  11  12  13  12  10  10
   9  10  10  11  9  10  11  8  8  9  8

   Organise the data into a frequency table.

3. The disco recorded the number of crates sold :-

<table>
<thead>
<tr>
<th>Crates</th>
<th>water</th>
<th>beer</th>
<th>alcho-pop</th>
<th>orange</th>
</tr>
</thead>
<tbody>
<tr>
<td>number</td>
<td>20</td>
<td>12</td>
<td>6</td>
<td>9</td>
</tr>
</tbody>
</table>

   Draw and label a neat horizontal bar graph to represent the information in the table.

4. Concert in the park ticket prices are shown in the tables below :-

<table>
<thead>
<tr>
<th>noon</th>
<th>3 pm</th>
<th>5 pm</th>
<th>8 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zone 2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   How much would it cost for a ticket on :-
   (a) Saturday 3 pm Zone 1
   (b) Sunday 4 pm Zone 2
   (c) Sunday 7 pm Zone 2
   Henry paid for an £18 ticket.
   (d) In what zone and when can Henry attend the concert?
   (e) What zone, day and times are the best bands on stage? (Give a reason for your answer).
Exercise 3

1. The line graph show the sales of Tony's ice-cream one week in July.
   (a) How many ice-cream's did Tony sell on
       (i) Monday (ii) Friday
       (iii) Saturday (iv) Sunday?
   (b) Tony was ill one day and could not drive his van to work.
       What day was Tony ill?
   (c) What day do you think was the hottest day? Explain.
   (d) What were the total number of ice-creams sold that week.
   (e) What was the mean number of ice-creams sold per day over the seven days?

2. The comparative line graph shows the sales of calculators from two different companies CALC-R-US and CALCUNEED.
   (a) How many calculators did CALCUNEED sell in:
       (i) August (ii) September (iii) January?
   (b) One company had a big advertising campaign between September and October.
       Which company? Explain.
   (c) Calculate the mean sales of each company per month.
   (d) Which company do you think had better sales? Explain.

3. Three companies computer sales are as shown.
   Draw a comparative line graph showing the sales information of the three companies.

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td>JDK</td>
<td>100</td>
<td>200</td>
<td>300</td>
<td>200</td>
<td>300</td>
<td>400</td>
</tr>
<tr>
<td>IPS</td>
<td>300</td>
<td>250</td>
<td>150</td>
<td>200</td>
<td>400</td>
<td>450</td>
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<tr>
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<td>350</td>
<td>500</td>
<td>400</td>
<td>250</td>
<td>300</td>
<td>325</td>
</tr>
</tbody>
</table>
Exercise 4

1. The pie chart shows the results of school tuck shop juice sold.
   (a) What percentage does each section represent?
   (b) What percent of the sales were:
      (i) Lemon
      (ii) Water
      (iii) Cola and orange

2. This pie chart shows this year's senior school disco attendance.
   (a) What percentage of the pupils were
      (i) 4th year  (ii) 5th year  (iii) 6th year?
   (b) If 480 pupils attended the disco, write the attendance of each year group.
   (c) Last year, of the 480 in attendance half were sixth year, an eighth were fourth year and the rest were fifth year.
      Copy or trace the outline of this pie chart.
      Show last years disco attendance.

You need a protractor for question 3.

3. At local cup final, a crowd 720 people attended.
   180 supported Rovers, 270 supported United and the rest of the spectators were there just to see a good game!
   Draw a pie chart to show this information.
   (hint: remember there are 360° in a pie chart).

Revision Exercise

1. Calculate the range and the mean of :-
   (a) 12, 11, 14, 14, 16, 21 and 10  (b) 8·8, 8·7, 7·9, 8, 9·1, 8·6 and 7·7.

2. In a swimming competition the following times were recorded :-
   18·7 secs, 22·4 secs, 19·7 secs, 20·1 secs,
   20·3 secs, 18·9 secs, 21·3 secs.
   How many swimmers were faster the mean time?
3. Mr. Evans the orchard manager kept a record of the weight of apples picked each day (in kg).
   (a) Organise the data into a frequency table.
   (b) How many days were more than 24kg picked?

4. The last six months of Alana and Betty's mobile phone bills are shown on the line graph.
   (a) How much did Alana pay in :-
      (i) December (ii) March ?
   (b) Between which two consecutive months was Betty's bill the same?
   (c) Alana and Betty's parents found the bills and went ballistic.
      Which month were the bills found ? Explain.
   (d) Calculate the mean bill for each girl.

5. The pie chart shows the people that attended a first year school disco.
   (a) What percentage attended were :-
      (i) Boys (ii) Girls (iii) Adults ?
   (b) If there were a total of 360 people at the disco, how many there were :-
      (i) Adults (ii) children ?

6. At the disco the music was split into :-
   25% Rock, 15% dance
   40% rave 20% gothic thrash!
   Copy or trace the pie chart and show these results.