## Mark scheme <br> March 2002

## GCSE

## Mathematics B (Modular)

## Module 1: Foundation

## The following abbreviations are used on the mark scheme

M Method marks awarded for a correct method.

A Accuracy marks awarded when following on from a correct method. It is not necessary always to see the method. This can be implied.

B Marks awarded independent of method.
M dep A method mark which is dependent on a previous method mark being awarded.
ft Follow through marks. Marks awarded for correct working following a mistake in an earlier step.
cao
Correct answer only.
SC Special case. Marks awarded for a common misinterpretation which has some mathematical worth.

## Foundation Tier

| 1 | (a) <br> (b) <br> (c) | $\begin{aligned} & 120 \\ & 120+180+200 \\ & =500 \\ & 200-120 \\ & =80 \end{aligned}$ | $\begin{aligned} & \hline \text { B1 } \\ & \text { M1 } \\ & \text { A1 } \\ & \text { M1 } \\ & \text { A1 } \mathrm{ft} \\ & \hline \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | 5 marks |  |
| 2 | (a) <br> (b) <br> (c) | $\begin{aligned} & 2,2, \underline{3}, 5,8 \\ & 3 \\ & (5+3+2+8+2) \div 5 \\ & =4 \\ & 6 \end{aligned}$ | $\begin{aligned} & \text { M1 } \\ & \text { A1 } \\ & \text { M1 } \\ & \text { A1 } \\ & \text { B1 } \end{aligned}$ | Ordering and locating middle <br> Totalling and $\div 5$ |
|  |  |  | 5 marks |  |
| 3 |  | B, C, A | B2 | Any 1 correct $\Rightarrow$ B1 |
|  |  |  | 2 marks |  |
| 4 | (a) <br> (b) | $\begin{array}{cc} \hline 3 & 1 \\ 5 & 3 \\ 8 & 6 \\ \frac{2}{6} & \text { or } \end{array} \frac{1}{3}$ | $\begin{aligned} & \mathrm{B} 1 \\ & \mathrm{~B} 1 \\ & \\ & \mathrm{~B} 1 \mathrm{ft} \\ & \mathrm{~B} 1 \end{aligned}$ | First column  <br> Second column  <br>   <br> Numerator 2 (or implied) <br> Denominator 6  |
|  |  |  | 4 marks |  |
| 5 | (a) <br> (b) | Plotting six points correctly ( $\pm 0.5 \mathrm{sq}$ ) Joining with straight (ruled) line segments 18.7 | $\begin{aligned} & \text { B2 } \\ & \text { B1 } \\ & \text { B1 } \\ & \hline \end{aligned}$ | Four or five correct $\Rightarrow B 1$ <br> Six correct plus extras $\Rightarrow B 1$ <br> correct or ft their graph with straight lines |
|  |  |  | 4 marks |  |
| 6 | (a) <br> (b) <br> (c) | $\begin{aligned} & 12 \\ & 12+4+8+10 \\ & =34 \\ & \text { Football } \quad \text { Rugby } \\ & \text { Racing } \\ & \text { Other } \\ & \hline \end{aligned}$ | B1 <br> M1 <br> A1 cao <br> M1 <br> A1 | Any two rows correct <br> Accept any reasonable representation of half a symbol |
|  |  |  | 5 marks |  |
| 7 | (a) <br> (b) | $\begin{aligned} & \text { Barchart drawn } \\ & \text { heights 4, 2, 1, } 6( \pm 2 \mathrm{~mm}) \\ & \text { Total }=13 \\ & \text { Probability }=\frac{4}{13} \end{aligned}$ | B1 <br> B1 <br> M1 <br> M1 dep <br> A1 | Bars equal width, any gaps equal size <br> Totalling <br> 4 -their total |
|  |  |  | 5 marks |  |
| 8 | (a) <br> (b) <br> (c) |  | $\begin{aligned} & \text { B1 } \\ & \text { M1 } \\ & \text { A1 } \\ & \text { B1 } \\ & \text { M1 } \\ & \text { A1 } \end{aligned}$ | 09 <br> Answer $19 \Rightarrow \mathrm{SC1} \quad 26 \Rightarrow \mathrm{M} 1 \mathrm{~A} 0$ <br> LOOK CAREFULLY AT DIAGRAM |
|  |  |  | 6 marks |  |
| 9 | (a) <br> (b) <br> (c) <br> (d) | 7 <br> Ruled line passing through (1.4 to $2.6,10$ ) and ( 6.6 to 8,30 ) The taller a tree is the broader its trunk $(3,31)$ is a long way from the line | $\begin{aligned} & \hline \text { B1 } \\ & \text { B1 } \\ & \\ & \text { B1 } \\ & \text { B1 } \\ & \hline \end{aligned}$ | $\pm 0.1$ <br> Line must cut vertical at 7 <br> Positive correlation <br> Line passes near $(3,13)$ |
|  |  |  | 4 marks |  |

