| Question | Working | Answer | Mark | Notes |
| :---: | :---: | :---: | :---: | :---: |
| 1(a) |  | 4002 | 1 | B1 cao |
| 1(b) |  | 70 | 1 | B1 cao |
| 1(c) |  | 2600 | 1 | B1 cao |
| $1(\mathrm{~d})(\mathrm{i})$ (ii) |  | $\begin{gathered} 25.7 \\ 30 \end{gathered}$ | 2 | B1 cao |
| 2(i) |  | 65 | 1 | B1 cao |
| (ii) |  | 160 | 1 | B1 cao |
|  |  | 32 | 1 | B1 cao |
| 3(a) |  | 12 | 1 | B1 cao |
| 3(b) |  | 7 | 1 | B1 cao |
| 3(c) |  | Bar graph | 2 | B2 cao <br> [B1 for each correct bar] |
| 3(d) |  | History marks higher/Geog harder test | 1 | B1 for History marks higher/Geog harder test, oe |


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| :---: | :---: | :---: | :---: | :---: |
| $4(\mathrm{a})$ |  | $\begin{aligned} & \text { Differences increase } \\ & \text { by1(for 7) } \\ & \text { Powers of } 2 \text { (for 8) } \end{aligned}$ | 2 | B1 for a correct explanation of each sequence |
| 4(b) |  | 4 dots, 6 dots, 4 dots | 1 | B1 cao |
| 4(c) |  | 1, 8, 11, 14, 17 | 2 | B2 cao <br> [B1 for each correct entry] |
|  |  | A and G <br> C and E | 2 | B1 cao <br> B1 cao |
| $\begin{aligned} & 5(\mathrm{~b})(\mathrm{i}) \\ & \text { (ii) } \\ & \text { (iii) } \end{aligned}$ |  | Arrows on top and bottom lines R on top left or bottom left angle Acute | 3 | B1 cao <br> B1 for either right angle correctly labeled <br> B1 cao |
| 6 | $\begin{aligned} & 10 / 100 \times 12000=1200 \\ & 12000 \div 4=3000 \\ & 12000-1200-3000 \end{aligned}$ | 7800 | 3 | $\begin{aligned} & \text { M1 for } 10 / 100 \times 12000 \text { or } 12000 \div 4 \text {, oe } \\ & \text { M1 for } 12000-‘ 1200 \text { ' } 3000 \text { ' } \\ & \text { A1 cao } \end{aligned}$ |
| $7(\mathrm{i})$ <br> (ii) | -6-(-7) | Cardiff and Edinburgh <br> 1 | 3 | $\begin{aligned} & \text { B1 cao } \\ & \text { M1 for -6-(-7) } \\ & \text { A1 cao } \end{aligned}$ |
| 8 | $\begin{aligned} & 4.5 \times 40+30 \\ & =180+30 \end{aligned}$ | 180 | 2 | $\begin{aligned} & \text { M1 for } 4.5 \times 40+30 \\ & \text { A1 cao } \end{aligned}$ |

\begin{tabular}{|c|c|c|c|c|}
\hline Question \& Working \& Answer \& Mark \& Notes \\
\hline \[
\begin{array}{|l}
\hline 9(\mathrm{a}) \\
9(\mathrm{~b}) \\
\\
9(\mathrm{c})
\end{array}
\] \& \& \[
\begin{gathered}
6 \\
20 \\
24
\end{gathered}
\] \& \[
\begin{aligned}
\& 1 \\
\& 1 \\
\& 1
\end{aligned}
\] \& \begin{tabular}{l}
B1 cao \\
B1 cao \\
B1 cao
\end{tabular} \\
\hline \begin{tabular}{l}
10(a) \\
10(b) \\
10(c) \\
10(d)
\end{tabular} \& \& \[
\begin{gathered}
4130 \\
0.24 \\
162 \\
9690
\end{gathered}
\] \& \begin{tabular}{l}
1 \\
1 \\
2 \\
2
\end{tabular} \& \begin{tabular}{l}
B1 cao \\
B1 cao \\
M1 for a fully correct method \\
A1 cao \\
M1 for a fully correct method, condone one multiplication error \\
A1 cao
\end{tabular} \\
\hline 11(a)
\[
11(\mathrm{~b})
\] \& \[
\begin{aligned}
\& 2 \mathrm{~min} 40 \mathrm{~s} \times 5=13 \mathrm{~min} 20 \mathrm{~s} \\
\& 13 \mathrm{~m} 20 \mathrm{~s}+10 \times 2=33 \mathrm{~m} 20 \mathrm{~s} \\
\& 1230+33 \\
\& \\
\& 918 \div 12 \\
\& 76 \mathrm{r} 6(=76.5)
\end{aligned}
\] \& \begin{tabular}{l}
1303 \\
76.5
\end{tabular} \& 4

3 \& | M1 for $2 \mathrm{~min} 40 \mathrm{~s} \times 5$ (= 13 min 20 s$)$ |
| :--- |
| M1 for ' 13 m 20s' +10 x 2 |
| A1 for 33 min 20 s , oe |
| A1 cao |
| M1 for $918 \div 12$ |
| A1 for 7 r 7 |
| A1 for 76.5 [accept 76 or 77] | \\

\hline
\end{tabular}

| Question | Working | Answer | Mark | Notes |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 12(\mathrm{a}) \\ & 12(\mathrm{~b}) \\ & 12(\mathrm{c}) \end{aligned}$ | $\begin{aligned} & \text { Eg. } 10 \mathrm{ft}=3 \mathrm{~m} \\ & 30000 \div 10 \times 3 \end{aligned}$ | $\begin{gathered} 18 \text { to } 20 \\ 4.4 \text { to } 4.6 \\ 9000 \end{gathered}$ | 1 | B1 for answer in range 18 to 20 <br> B1 for answer in range 4.4 to 4.6 <br> M1 for a correct reading to find a conversion factor M1 for correct application of conversion factor A1 for answer in range 8500 to 9500 |
| $\begin{aligned} & 13(a) \\ & 13(\mathrm{~b}) \end{aligned}$ |  |  | $2$ | B2 cao <br> [- B1 for each error or extra line] <br> B 3 for a fully complete tiled floor with rot symm of order 2 <br> [B2 for floor with rot symm of order 2 <br> B1 for at least 2 correct additional tiles] |
| 14 |  |  | 3 | B3 for an accurate net <br> [B2 for a net with 1 square and 4 isos triangles with error in dimensions <br> B 1 for a square and 4 any sized triangles] |
| $\begin{aligned} & 15(\mathrm{a}) \\ & 15(\mathrm{~b}) \end{aligned}$ | $8 \times 24$ | $\begin{gathered} 12,4,4 \\ 192 \end{gathered}$ |  | M1 for a cuboid with all dimensions of even value A1 for correct possible dimensions <br> M1 ft for 'length' x 'width' x 'height' <br> A1 cao |


| Question | Working | Answer | Mark | Notes |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 16(a) \\ & 16(b) \end{aligned}$ | $\begin{aligned} & 360 / 30 \times 5 \\ & 60 / 360 \end{aligned}$ | $60$ $1 / 6$ | 2 | M1 for 360/30 x 5 <br> A1 cao <br> B2 cao <br> [B1 for ?/360 or 60/? oe] |
| $\begin{aligned} & \text { 17(a) } \\ & 17(\mathrm{~b}) \\ & 17(\mathrm{c}) \end{aligned}$ | $45 / 100$ $(400-308) / 2+1$ | $\begin{gathered} 9 / 20 \\ 47 \\ 2 n-1 \end{gathered}$ | $\begin{aligned} & 2 \\ & 2 \end{aligned}$ | M1 for 45/100 <br> A1 cao <br> M1 for $(400-308) / 2$ or 46 seen A1 cao <br> B2 cao [B1 for $2 n \pm k$ where $k \neq-1$ ] |
| $\begin{aligned} & \text { 18(a) } \\ & \text { 18(b) } \end{aligned}$ | $\begin{aligned} & \mathrm{P}(7 \text { or } 8)=7 / 24 \\ & \mathrm{P}(9 \text { or } 10)=3 / 24 \\ & 7 / 24 \times 360 \times 1=105 \\ & 3 / 24 \times 360 \times 2=90 \\ & \text { Takings }=360 \times 0.5=180 \end{aligned}$ | 45678 56789 678910 A loss of $£ 15$ | $2$ | B2 for a fully correct table <br> [B1 at least 5 correct entries] <br> M1 for $\mathrm{P}(7$ or 8$)\{=7 / 24\}$ or $\mathrm{P}(9$ or 10$)\{=3 / 24\}$ oe M1 for ' $7 / 24$ ' $\times 360 \times 1(=105)$ or' $3 / 24$ ' $\times 360 \times 2$ (=90) <br> M1 for $360 \times 0.5$ (= 180) <br> A1 for 180 and 195 seen <br> C1 for 'a loss of $£ 15$ ' oe |
| $\begin{aligned} & \text { 19(a) } \\ & \text { 19(b) } \end{aligned}$ | $\begin{aligned} & 2 x+4=6(x-1) \\ & 2 x+4=6 x-6 \\ & 10=4 x \end{aligned}$ | 21 2.5 | 1 3 | $\begin{aligned} & \text { B1 cao } \\ & \text { M1 for } 2 x+4=6(x-1) \\ & \text { M1 for } 4+6=6 x-2 x \\ & \text { A1 cao } \end{aligned}$ |


| Question | Working | Answer | Mark | Notes |
| :---: | :---: | :---: | :---: | :---: |
| 20 | $9 \times 8+1 / 2 \times 5 \times 12$ | 102 | 4 | M1 for splitting <br> M1 for either $9 \times 8$ or $1 / 2 \times 5 \times 12$ oe <br> M1 for $9 \times 8+1 / 2 \times 5 \times 12$ <br> A1 cao |
| 21(a) |  | Vague response boxes Question does not include a time period | 2 | B1 for a correct criticism of the question B1 for a correct criticism of the response boxes |
| 21(b) |  | How many times a month do you go to a restaurant? $01-34-56+$ | 2 | B1 for a relevant question inc. time period B1 for at least 3 non-overlapping response boxes |
| 21(c) |  | A leading question Restricted/biased sample | 2 | B1 for a 'leading/biased' question oe B1 for 'small/biased'sample oe |
| 22(a) | $19.5+19.5 / 5$ | 23.40 | 3 | M1 for 19.5/5 <br> M1 for $19.5+19.5 / 5$ oe A1 cao |
| 22(b) | $\begin{aligned} & 72 \div 6=12 \\ & 12 \times 2 \end{aligned}$ | 24 | 3 | M1 for $72 \div 6$ <br> M1 for ' 12 ' $\times 2$ <br> A1 cao |

