| Question | Working | Answer | Mark | Notes |
| :---: | :---: | :---: | :---: | :---: |
| 1(a) |  | 36 | 1 |  |
| 1(b) | 24-15 | 9 | 2 | M1 for 24-15 <br> A1 cao <br> [B1 for either 24 or 15 vseen if M0 scored] |
| 1(c) |  | $11 / 2$ patterns $21 / 4$ patterns | 2 | B1 for April B1 for May |
| 2(a) |  | 1207 | 1 | B1 cao |
| 2(b) |  | Forty thousand and ten | 1 | B1 cao |
| 2(c) |  | 60006 thousand | 1 | B1 cao |
| 3 | $\begin{aligned} & 10-(0.90 \times 2+1.4 \times 3+1.5) \\ & 10-7.50 \end{aligned}$ | 2.50 | 3 | $\begin{aligned} & \text { M1 for } 0.90 \times 2+1.4 \times 3+1.5 \\ & \text { M1 for } 10-" 7.50 " \\ & \text { A1 cao } \end{aligned}$ |
| 4(a) |  | F | 1 | B1 cao |
| 4(b) |  | B, D | 1 | B1 cao |
| 5(a) |  | 46 | 1 | B1 cao |
| 5(b) |  | 3.4 | 1 | B1 cao |
| 5(c) |  | Diagram | 1 | B1 cao |
| 5(d) |  | Diagram | 1 | B1 cao |


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| 6(a) |  | Sydney |  |  |  |  | 1 | B1 cao |
| 6(b) |  | $5$ |  |  |  |  | 1 | B1 cao |
| 6(c) |  | -21 |  |  |  |  | 1 | B1 cao |
| 6(d) |  | 4.5 |  |  |  |  | 2 | M1 for $(12+-3) / 2$ or for a drawn number line from at least -3 to 12 A1 cao |
| 7(a) |  | Portland |  |  |  |  | 1 | B1 cao |
| 7(b) |  | Frequencies of$3,3,4,1,1$ |  |  |  |  | 2 | B2 for a fully correct tally chart (condone omission of tallies) <br> [B1 for 2 correct frequencies] |
| 7(c) |  | Bristol, Ipswich, Lincoln, London, Oxford, Peterborough |  |  |  |  | 2 | B2 for all 6 places <br> [B1 for 4 out of no more than 6 places quoted] |
| 8 |  |  |  |  |  |  | 3 | B3 for fully correct table [B2 for 2 or 3 correct new entries B1 for one new correct entry] |
|  |  | T |  |  |  |  |  |  |
|  |  | 26 | S | Wg |  |  |  |  |
|  |  | 109 | 83 | 39 | Wo |  |  |  |
|  |  | 137 | 111 | 67 | 28 | T |  |  |
| 9(a) |  | 1590 |  |  |  |  | 1 | B1 cao |
| 9(b) |  | 0.24 |  |  |  |  | 1 | B1 cao |
| 9(c) |  | 25000 |  |  |  |  | 1 | B1 cao |
| 9(d) |  | 0.007 |  |  |  |  | 1 | B1 cao |


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| 10 | $\begin{aligned} & 2 / 3=16 / 24 \\ & 5 / 8=15 / 24 \end{aligned}$ | 5/8 | 3 | M1 for an attempt to convert to fractions with a common denominator or two identical diagrams with an attempt at shading the fractions <br> A1 for $16 / 24$ and $15 / 24$ or correct diagrams C1 for $5 / 8$ backed up by correct working |
| $\begin{aligned} & \hline 11(\mathrm{a}) \\ & 11(\mathrm{~b}) \\ & 11(\mathrm{c}) \end{aligned}$ |  | 1350 <br> 2 hours <br> Left town at 1600 , after 0.5 km stopped for 30 mins, then carried on arriving home at 1730 | 1 <br> 2 | B1 cao <br> B1 cao <br> B1 for either 1600 or 1730 seen B1 for 'stopped for 30 mins' oe |
| 12 |  | Veh Tally Freq <br> SC   <br> LC   <br> V   <br> O   | 3 | B1 for eac of the following aspects: <br> All 4 types shown <br> Tally oe means of recording Frequency oe method of totalling |
| 13(a) 13(b) | $\begin{array}{r} 140 \\ \times 72 \\ \hline 280 \\ \underline{9800} \\ \hline \end{array}$ | Box of dimensions $42 \mathrm{~cm} \times 32 \mathrm{~cm} \times 24 \mathrm{~cm}$ $10080$ |  | B3 for a cuboid box with correct dimensions [B2 for 2 correct dimensions that would just fit the tins, B1 for just one correct dimension] <br> M1 for a complete method to work out $140 \times 72$ A1 for correct products, condone one multiplication error (ignore any error in addition) A1 cao |


| Question | Working | Answer | Mark | Notes |
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| 14(i) <br> (ii) | $30 \times 15=$ | $\begin{gathered} 450 \\ 9 \end{gathered}$ | 3 | M1 for $30 \times 15$ <br> A1 cao <br> B1 ft for 9 |
| 15(a) 15(b)(i) <br> (ii) |  | $\begin{gathered} 4+5 \times(2+3) \\ (4+5) \times(2+3) \end{gathered}$ | $1$ $2$ | B1 cao <br> B1 cao <br> B1 cao |
| 16 | $5000 \times 4 \times 5 \div 100$ | 1000 | 3 | M1 for $5000 \times 4 \div 100$ (= 200) <br> M1 for ' 200 ' x 5 <br> A1 cao |
| 17(a) <br> 17(b) | $\begin{aligned} & € 239.99 \approx € 240=£ 200 \\ & \$ 279.95 \approx \$ 280 \approx £ 185 \end{aligned}$ $\begin{aligned} & £ 100=€ 120 \\ & £ 100=\$ 150 \\ & 150 / 120 \\ & \hline \end{aligned}$ | American website since 185 < 200 1.25 | 4 <br> 2 | M1 for reading using either graph to convert any factor of either $€ 240$ or $\$ 280$ into pounds or an attempt to find either conversion factor <br> A1 for any correct conversion factor or $£ 200$ or $£ 185$ ( $\pm £ 4$ ) <br> A1 for both $£ 200$ and $£ 185$ ( $\pm £ 4)$ <br> C1 for 'American website since $185<200$ ' oe <br> M1 for $150 / 120$ oe <br> A1 for $1.25( \pm 0.04)$ <br> [B1 for 0.8 if M0 scored] |
| $\begin{aligned} & 18(a) \\ & 18(b) \\ & 18(c) \end{aligned}$ |  | 2 <br> Negative $2.6 \text { to } 2.9$ | $\begin{aligned} & 1 \\ & 1 \\ & 2 \end{aligned}$ | B1 cao <br> B1 cao <br> B2 for answer in the range 2.6 to 2.9 <br> [B1 for a line of best fit drawn if answer outside this range] |


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| $\begin{aligned} & \text { 19(a) } \\ & \text { 19(b) } \end{aligned}$ |  | Triangle at $(1,-1)$, $(3,-1),(1,-4)$ <br> Enlargement, scale factor 3 about ( 0,0 ) | $3$ | B1 cao <br> B1 for enlargement <br> B1 for scale factor of 3 <br> B1 for centre $(0,0)$ oe |
| $\begin{aligned} & \text { 20(a) } \\ & \text { 20(b) } \\ & 20(\mathrm{c}) \end{aligned}$ | $(9+6) \times 12$ $(156 \div 12)-6$ | 180 <br> 7 $C=12(n+6)$ | $2$ <br> 2 <br> 3 | M1 for $(9+6) \times 12$ <br> A1 cao <br> M1 for $(156 \div 12)-6$ <br> A1 cao <br> B3 for a fully correct formula <br> [B2 for $12(n+6)$ or $C=12(n+\mathrm{k})$ <br> Or $C=\mathrm{p}(n+6)$ <br> B1 for $12 n$ or $(n+6)$ seen] |
| $\begin{aligned} & \text { 21(a) } \\ & \text { 21(b) } \\ & 21(\mathrm{c}) \end{aligned}$ | $\begin{aligned} & 180 \times 2=360 \\ & (180-120) / 2 \\ & 360-54-108-(180-30) \end{aligned}$ | Proof <br> 30 <br> 48 | $2$ <br> 2 <br> 2 | M1 for splitting the quad into two triangles C1 for stating $180 \times 2=360$ <br> M1 for $(180-120) / 2$ <br> A1 cao <br> M1 for 360-54-108-(180 - '30') <br> A1 cao |


| Question | Working | Answer | Mark | Notes |
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| 22(a) |  | Biased sample | 1 | B1 for 'biased sample" oe |
| $22(b)$ |  | Eg: stopping the $1^{\text {st }} 100$ people in the town centre OR knock on 100 doors in the local area | 1 | B1 for an acceptable method |
| 22(c) |  | How many times in a month would you use the swimming pool? $\begin{array}{llll} 0 & 1-3 & 4-5 & 6+ \end{array}$ | 2 | B1 for including a time period in an appropriate question <br> B1 for at least 3 non-everlapping response boxes. |
| 23 |  | Correct region shaded | 3 | B1 for $y=2$ draw <br> B1 for a circle, radius 3 cm , centre C drawn <br> B1 for correct region |
| 24 | $\begin{array}{\|l\|} \hline 240 \div 8=30 \\ \text { Ann }=30 \times 3=90 \\ B o b=30 \times 5=150 \\ 90 \div 2+150 \div 10=60 \\ O R \\ \text { Ann }=3 / 8 \\ B o b=5 / 8 \\ 3 / 8 \times 1 / 2+5 / 8 \times 1 / 10 \\ 3 / 16+5 / 80=15 / 80+5 / 80 \end{array}$ | 60/240 (= 1/4) | 4 | M1 for $240 \div 8=30$ <br> M1 for $30 \times 3(=90)$ or $30 \times 5(=150)$ <br> M1 for ' 90 ' $\div 2+$ ' 150 ' $\div 10$ <br> A1 cao <br> OR <br> M1 for $3 / 8$ or $5 / 8$ <br> M1 for $3 / 8 \times 1 / 2+5 / 8 \times 1 / 10$ <br> M1 for 3/16 + 5/80 <br> A1 cao |
| 25(a) |  | $12 x+18$ | 1 | B1 cao |
| 25(b) |  | $3 y+2 z$ | 2 | B2 cao <br> [B1 for $3 y$ or $2 z$ |

