## Topic Test 1 Mark Scheme

Ratio and Proportion - Higher


| 2 | Alternative method 1 |  |  |
| :---: | :---: | :---: | :---: |
|  | $630 \div 100 \times 125$ or 787.5 | M1 | oe Works out calories in 90 nuts |
|  | their $787.5 \div 90$ | M1dep |  |
|  | 8.75 | A1 | oe Accept 9 with working |
|  | Alternative method 2 |  |  |
|  | $90 \div 125 \times 100$ or 72 | M1 | oe <br> Nuts per 100 g |
|  | $630 \div$ their 72 | M1dep |  |
|  | 8.75 | A1 | oe Accept 9 with working |
| 3 | 2 parts $\rightarrow 9$ | M1 | oe eg $1: 3,2: 6, \ldots 4.5: 13.5$ |
|  | $9 \div 2 \times 6$ | M1 | $\begin{aligned} & \text { oe } \\ & \text { eg } 4.5: 13.5: 27 \end{aligned}$ |
|  | 27 | A1 |  |


| Q Answer | Mark | Comments |
| :---: | :---: | :---: | :---: |


| 4 | Alternative method 1 |  |  |
| :---: | :---: | :---: | :---: |
|  | $6 \div\left(\frac{1}{2}+\frac{1}{4}\right)$ or 8 (portions) | M1 | $\text { oe eg } \frac{1}{2}: \frac{1}{4}=4: 2$ |
|  | their $8 \times \frac{1}{2} \times 80$ or 320 | M1dep | oe eg $4 \times 80$ |
|  | their $8 \times \frac{1}{4} \times 100$ or 200 | M1dep | dependent on first M oe eg $2 \times 100$ |
|  | 520 | A1 |  |
|  | Alternative method 2 |  |  |
|  | $6 \div\left(\frac{1}{2}+\frac{1}{4}\right)$ or 8 (portions) | M1 | oe |
|  | $\frac{1}{2} \times 80+\frac{1}{4} \times 100$ or 65 | M1 |  |
|  | their $40+$ their $65 \times$ their 8 | M1dep | dependent on both Ms |
|  | 520 | A1 |  |


| 5 | $(12.5-2) \div 5 \times 2$ or 4.2 | M1 | oe |
| :--- | :--- | :--- | :--- |
|  | $(7.5-1) \div 5 \times 2$ or 2.6 | M1 | oe |
|  | $(6.2,3.6)$ | A2 | A1 for each correct coordinate |


| Q Answer | Mark | Comments |
| :--- | :---: | :---: | :---: |


| 6 | Alternative method 1 |  |  |
| :---: | :---: | :---: | :---: |
|  | $4 x-25$ and $3 x$ | M1 |  |
|  | $\frac{4 x-25}{3 x}=\frac{7}{9}$ or $x=15$ | M1dep | oe eg $9(4 x-25)=21 x$ |
|  | 45 | A1 |  |
|  | Alternative method 2 |  |  |
|  | Two ratios equivalent to $4: 3$ and $7: 9$ with the second parts common | M1 | eg 12：9 and 7：9 |
|  | Builds up their ratios until the first parts have a difference of 25 | M1dep | $\begin{aligned} & \text { eg } 24: 18,14: 18 \quad 36: 27,21: 27 \\ & 60: 45,35: 45 \end{aligned}$ |
|  | 45 | A1 |  |

