| Quest | Answer | Marks | Answer |
| :---: | :---: | :---: | :---: |
| 1 (a) | Answer of $14 \frac{2}{5}, 14.4$ or 15 with clear, correct working <br> As above but there may be any of <br> - a single error in their calculations <br> - lack of clarity eg $15 \times 1 \frac{1}{4}=\frac{75}{4}$ <br> - $14 \leq$ their answer < 15 <br> Nothing of any worth | 3 <br> 2-1 <br> 0 | eg $15 \times 1 \frac{1}{4}=18 \frac{3}{4}$ <br> or $14 \times 1 \frac{1}{4}=17 \frac{1}{2}$ so 1 more month needed <br> or $18 \div 1 \frac{1}{4}=18 \times \frac{4}{5}=14 \frac{2}{5}$ <br> isw if candidate goes on to try and convert to weeks and or days <br> For the lower mark, any correct calculation with $1 \frac{1}{4}$ or 1.25 eg $1 \frac{1}{4} \times 4=5$ |


|  | (b) | (i) | $\frac{1}{t}$ | 1 |  |  |
| :--- | :--- | :--- | :--- | :---: | :--- | :--- |
|  |  | (ii) | 1 cao | 1 |  |  |


| $\mathbf{2}$ | (a) | $10^{24}$ | $\mathbf{2}$ | $\mathbf{M 1}$ for $10^{21} \times 1000$ oe or $10^{3}$ seen |  |  |
| :--- | :--- | :--- | :--- | :---: | :--- | :--- |
|  | (b) | 10000, ten thousand or $10^{4}$ | 2 | $\mathbf{M 1}$ for $10^{27} \div 10^{23}$ or $10^{-4}$ seen | $\mathbf{0}$ for $27 \div 23$ |  |
|  | (c) | $\frac{1}{10}$ 3 $\mathbf{B 2}$ for $\frac{1}{\sqrt{100}}$ or $\sqrt{\frac{1}{100}}$ <br> Or B1 for $\frac{1}{100^{\frac{1}{2}}}$ or 10 final answer or   <br> $\sqrt{100}$   |  |  |  |  |


| 3 | (a) |  | 23 (after figs 234[0] seen) | 4 | B3 for 23.4[0] <br> Or B2 for figs 234[0] <br> Or M1 for complete method seen <br> AND <br> B1 for answer > 2 sf correctly rounded <br> to 2sf |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | (b) | $10^{9}$ | 1 | Accept 1000 000 000 |  |  |


| $\mathbf{4}$ | $\mathbf{( a}$ | 850 | 1 |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | (b) | 348 or 350 | 2 | $\mathbf{M 1}$ for $850 \times 0.8^{4}$ soi by 348.16 rot |  |

