November 2009

| 1380/2F |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Question |  | Working | Answer | Mark | Notes |
| 1 |  |  | 72 | 1 | B1 for 72, could be written on number line |
|  | (b) |  | 8.7 | 1 | B1 for 8.7, could be written on number line |
|  | (c) |  | Arrow at 320 | 1 | B1 allow $\pm$ half graduation |
| 2 | (a)(i) |  | 8 | 1 | B1 cao |
|  | (ii) |  | 14 | 1 | B1 cao |
|  | (b) |  | 16 | 2 | B2 cao <br> (B1 for $8,12,15$ or 17 ) |
| 3 | (a) |  | Diana | 1 | B1 cao |
|  | (b) |  | Charlotte | 1 | B1 cao |
|  | (c) |  | Emma | 1 | B1 cao |
| 4 | (a)(i) |  | Cuboid | 1 | B1 for cuboid or rectangular prism (ignore spelling) |
|  | (ii) |  | Triangular-based pyramid | 1 | B1 ignore spelling, accept pyramid, tetrahedron |
|  | (b)(i) |  | 5 | 1 | B1 cao |
|  | (ii) |  | 9 | 1 | B1 cao |


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| 5 |  |  | $\frac{3}{8}$ | 1 | B1 for $\frac{3}{8}$ or equivalent fraction |
|  | (b) |  | 7 squares shaded | 1 | B1 for 7 squares shaded |
|  | (c) |  | 40 | 1 | B1 cao |
| 6 | (a) |  | 0836 | 1 | B1 cao |
|  | (b) |  | 11 | 1 | B1 cao |
|  | (c) |  | 1025 | 1 | B1 for 1025 accept $1025 \mathrm{am}, 1025 \mathrm{~h}$ but not 1025 pm |
| 7 |  |  | 2 things wrong | 2 | B2 for 2 of <br> - 'One flavour missing' <br> - 'Incorrect scale on $y$-axis', accept ' 1 is missing' or 'he should have started at 1 ' <br> - 'No title’ <br> (B1 for 1 of these) |
| 8 | (a)(i) |  | 21 | 2 | B1 for 21 (ignore additional correct terms) |
|  | (ii) |  | add 4 |  | B1 for 'add 4' or equivalent explanation or 'every other odd number' oe (accept $4 n+1$ ) |
|  | (b) |  | 105 | 1 | B1 cao |


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| 9 |  |  | 100 | 1 | B1 cao |
|  | (b) |  | 7 | 1 | B1 for 7 or $-7($ accept $\pm 7)$ |
|  | (c) |  | 8 | 1 | B1 cao |
| 10 | (a) |  | 33 | 1 | B1 cao |
|  | (b) |  | 19 | 1 | B1 cao |
|  | (c) |  | 18 and 28 | 1 | B1 cao |
|  | (d) |  | 18 or 36 | 1 | B1 cao |
| 11 | (a) |  | kite | 1 | B1 cao |
|  | (b) |  | right angle marked | 1 | B1 for right angle marked R or with square. |
|  | (c) |  | acute | 1 | B1 cao |
| 12 | (a) |  | 7 | 1 | B1 cao |
|  | (b) |  | 8 | 2 | M1 for $10-2$, accept 2 to 10 and $2-10$ A1 cao |
|  | (c) | $45 \div 9=5$ | 5 | 2 | M1 for adding and dividing by 9 A1 cao |


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| 13 |  |  |  | 1 | B1 for $7 p$, accept $7 \times p, p 7, p \times 7$ |
|  | (b) |  | $5 e f$ | 1 | B1 for $5 e f$, accept ef5, $5 f e, e 5 f$, etc. |
|  | (c) |  | $3 y^{2}$ | 1 | B 1 for $3 y^{2}$ or $y^{2} 3$ |
| 14 | (a)(i) |  | 115 | 2 | B1 cao |
|  | (ii) |  | reason |  | B1 for 'angles on a straight line add to 180' |
|  | (b)(i) |  | 50 | 3 | M1 for $180-(65+65)$ oe or $115-65$ A1 cao |
|  | (ii) |  | reason |  | B1 for isosceles oe or angles in a triangle add to 180 or exterior angle is equal to sum of opposite interior angles |
| 15 | (a) |  | 19.2 | 1 | B1 for answer in range 19 to 19.9 inclusive |
|  | (b) |  | 6.2 | 1 | B1 for answer in range 6 to 6.4 inclusive |
|  |  |  | 160 | 2 | M1 for $10 \times(16$ to 17$)$ or $5 \times(32$ to 33$)$ oe A1 for 150-175 SC B1 for 200 |
| 16 | (a) | $84 \div 2=42$ | 42 | 1 | B1 cao |
|  | (b) |  | $\frac{1}{6}$ | 2 | M1 for $\frac{60}{360}$ or equivalent fraction A1 cao |


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| 17 |  | $\begin{gathered} 2.40 \div 4 \times 3(=1.80) \\ 2+2 \times 0.34+1.80 \end{gathered}$ | 4.48 | 4 | M1 for $2 \times 0.34$ or $0.34+0.34$ or 0.68 seen <br> M1 for $2.40 \div 4 \times 3$ oe or $1.20+0.60$ or $2.40-0.60$ or 1.80 seen <br> M1 (dep on at least one previous M1) for $2+{ }^{\prime} 0.68{ }^{\prime}+$ ' 1.80 ' <br> A1 for 4.48 or 448 p <br> (accept equivalent methods in pence) |
| 18 |  | $3 \times 2+5 \times-4$ | -14 | 2 | M1 for $3 \times 2+5 \times-4$ oe or 6 and -20 seen A1 for -14 |
| 19 | (a) <br> (b) | $400 \times 2.30$ $46 \div 2.30$ | $920$ $20$ | 2 2 | M1 for $400 \times 2.30$ oe A1 for 920 or 920.00 <br> M1 for $46 \div 2.30$ oe <br> A1 for 20 or 20.00 |
| 20 | (a) <br> (b) |  | $28.38461538$ $30$ | 2 1 | B2 for 28.3846.... <br> (B1 for 107.01 or 3.77 or $28.38(\ldots)$ or $28 \frac{5}{13}$ oe) <br> B1 ft for 30 or for answer $>1 \mathrm{sf}$ in (a) rounded to 1 sf |


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| 21 |  |  | 7 | 1 | B1 cao |
|  | (b) |  | 12 | 1 | B1 cao |
|  | (c) |  | 50 | 1 | B1 cao |
|  | (d) | $\begin{gathered} 4 y+7-7=13-7 \\ 4 y=6 \end{gathered}$ | 1.5 | 2 | M1 for subtracting 7 from both sides or dividing all 3 terms by 4 <br> A1 for 1.5 oe |
| 22 | (a) |  | $\begin{array}{cccc}\mathbf{4 3} & \mathbf{2 5} & (19) & \mathbf{8 7} \\ (36) & (42) & \mathbf{3 5} & \mathbf{1 1 3} \\ (79) & \mathbf{6 7} & (54) & (200)\end{array}$ | 3 | B3 all 6 correct <br> (B2 for 4 or 5 correct) <br> (B1 for 2 or 3 correct) |
|  | (b) |  | $\frac{79}{200}$ | 1 | $\text { B1 for } \frac{79}{200} \text { oe }$ |
| 23 |  |  | Correct plane | 2 | B2 for a correct plane defined by showing at least 2 adjacent lines on the plane <br> (B1 for a line of symmetry on one face) |
|  | (b) |  | Correct elevation | 2 | B2 for sketch of trapezium <br> (B1 for trapezium with a rectangle or a parallelogram added at top or side or lines drawn from vertices) |


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| 24 |  | $\begin{aligned} & 1.72 \div 2(=0.86) \\ & 7.65 \div 9(=0.85) \end{aligned}$ | Large box with reasons | 3 | M1 for $1.72 \div 2(=0.86)$ <br> M1 for $7.65 \div 9(=0.85)$ <br> A1 for large box or 9 kg with correct calculations OR <br> M1 for $2 \div 1.72(=1.162 \ldots)$ <br> M1 for $9 \div 7.65$ ( $=1.176 \ldots$ ) <br> A1 for large box or 9 kg with correct calculations OR <br> M2 for $7.65 \times 2 \div 9(=1.70)$ or for $1.72 \div 2 \times 9(=7.74)$ <br> A1 for large box or 9 kg with correct calculations OR <br> M1 for $1.72 \times 9(=15.48)$ <br> M1 for $7.65 \times 2(=15.30)$ <br> A1 for large box or 9 kg with correct calculations (Accept equivalent methods for comparison) |
| 25 |  |  | Rotation $180^{\circ}$ Centre $(0,1)$ | 3 | B1 for 'rotation' <br> B1 for ' $180^{\circ}$ ' or 'half turn' <br> B1 for $(0,1)$ <br> (B0 for any combination of transformations) <br> OR <br> B1 for 'enlargement' <br> B1 for scale factor -1 <br> B1 for $(0,1)$ |


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| 26 |  | $360+\frac{17.5}{100} \times 360$ | 423 | 3 | M1 for $\frac{17.5}{100} \times 360$ oe or $10 \%+5 \%+2.5 \%$ oe (condone one calculation error) or 63 or 36,18 and 9 seen <br> M1 (dep) for $360+{ }^{\prime} 63$ ' <br> A1 for 423 <br> OR <br> M2 for $1.175 \times 360$ oe <br> A1 for 423 |
| 27 | (a) <br> (b) |  | Negative $117-123$ | 1 $2$ | B1 cao <br> M1 for a line of best fit drawn between $(9,130)$ and $(9$, $140)$ and between $(13,100)$ and $(13,110)$ inclusive A1 for 117 - 123 |
| 28 |  | $\begin{gathered} 180 \div 9(=20) \\ 20 \times 4 \end{gathered}$ | 80 | 3 | M2 for $(180 \div(2+3+4)) \times 4$ or for $40,60,80$ seen A1 cao <br> (M1 for $180 \div(2+3+4)$ or 20 seen) |


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| 29 |  | $3 \rightarrow 33$ $4 \rightarrow 72$ $3.1 \rightarrow 35.9(91)$ $3.2 \rightarrow 39.1(68)$ $3.3 \rightarrow 42.5(37)$ $3.4 \rightarrow 46.1(04)$ $3.5 \rightarrow 49.8(75)$ $3.6 \rightarrow 53.8(56)$ $3.7 \rightarrow 58.0(53)$ $3.8 \rightarrow 62.4(72)$ $3.9 \rightarrow 67.1(19)$ $3.75 \rightarrow 60.2(34375)$ | 3.7 | 4 | B2 for a trial between 3.7 and 3.8 inclusive <br> (B1 for a trial between 3 and 4 inclusive) <br> B1 for a different trial between 3.7 and 3.8 exclusive <br> B1 (dep on at least one previous B1) for 3.7 <br> NB trials should be evaluated to at least 1 dp truncated or rounded |

