

Paper 5521_02

| No | Working | Answer | Mark | Notes |
|-----|----------------------|--------------|------|---|
| 1 | Draw diagram. | Diagram | 1 | B1 cao |
| (b) | | 13,16 | 1 | B1 cao |
| (c) | | 31 | 1 | B1 cao |
| 2 | | 8 | 1 | B1 cao |
| (b) | | 14 | 2 | B2 for 14 (B1 for 13 or 15) |
| (c) | | 16 | 2 | B2 for 16 (B1 for 15, 17 or 8) |
| 3 | | 4,7 drawn | 2 | B2 for car height 4 and bus height 7, (B1 for one correct) |
| (b) | | 6 | 1 | B1 cao |
| (c) | | Walk | 1 | B1 |
| (d) | | 27 | 1 | B1 cao |
| 4 | | 40 | 1 | B1 for 40–41 inclusive |
| (b) | | 12 | 1 | B1 for 11.5 – 12.5 inclusive |
| 5 | | Row complete | 2 | B2 for 1+..+11; 36 (B1 for one of the 2 cells complete) |
| (b) | | Square | 1 | B1 “square” |
| 6 | One line of symmetry | | 1 | B1 within 2mm of centre of base / 2mm of vertex |

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|----|---|--|----------------------|--|
| 7 | (a) (i) (ii) (b) (c) (d) | 09 06 39 06 55 2h 6min 15 min | 2 1 1 2 | B1 (accept 9 06 oe) B1 cao B1 (accept 6 55 oe) B1 cao M1 for 0906 – 0645 – “(c)” or 0906 – 0645 – 2hr 6min or 2hr 21min – “(c)” or 2hr 21min – 2hr 6 min or 141 – 126 or 20 – 5 A1 cao SC: B1 for 55 or 75 or 93 seen |
| 8 | (i) (ii) (iii) | 8,10,12,20 or 30 8,12 or 20 3 or 5 | 3 | B1 at least one of 8, 10, 12, 20, 30 (no extras) B1 at least one of 8,12, 20 (no extras) B1 3 or 5 or both (no extras) |
| 9 | (a) (b) (c) | C or G A and F 2 | 1 1 1 | B1 at least one of C or G (no extras) B1 cao B1 (accept –2) |
| 10 | (a) (b)(i) (ii) (c)(i) (ii) | $\frac{7}{10}$ 4 squares 80% 2.5 1.7 | 1 2 2 | B1 7/10 oe B1 4 squares shaded B1 80% or ft from unshaded part (no ft from 0% or 100%) B1 2.4–2.6 inclusive B1 1.6–1.8 inclusive |
| 11 | (a) (b) | 2 14 | 1 1 | B1 for 2 or –2 B1 for 14 or –14 |



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|----|--|------------------------------|------|---|---|
| 12 | $2 \times 8.50 = 17.00$ $3 \times 4.50 = 13.50$ Total = 30.50 $50.00 - 30.50$ | 19.5(0)(p) | 3 | M1 for adding 5 correct values or $2 \times 8.50 + 3 \times 4.50$ (ignore units) or 30.5(0) or 3050 seen M1 dep for 50 – “30.50” (ignore units) (OR M1 for adding at least 1 adult ticket and at least 1 child ticket and subtracting from 50) A1 cao SC: B1 for 24 or 37 or 2400 or 3700 seen | |
| 13 | (a) | Hexagon | 1 | B1 | |
| | (b)(i) | 120 | 2 | B1 cao | |
| | (ii) | Str line | | B1 reference to a (straight) line and 180° | |
| | (c) | Obtuse | 1 | B1 Accept “interior” | |
| 14 | (a) | 2, 2, 3, 3, 3, 4, 4, 4, 5, 6 | 3.5 | 2 | M1 ordering the numbers (condone 1 error or omission) A1 cao |
| | (b) | $36 \div 10$ | 3.6 | 2 | M1 sum of numbers $\div 10$ A1 cao SC B1 for 3r 6 |
| | (c) | $6 - 2$ | 4 | 1 | B1 cao |
| 15 | (a) | Paul | | 1 | B1 cao |
| | (b) | $36 \div 2$ oe | 18 | 1 | B1 cao |
| | (c) | $60/360 =$ | 1/6 | 2 | M1 60/360 oe A1 cao |

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| 16 | $4.7 \div 5.9 = 0.796610169$ | 0.7966.. | 2 | B2 for 0.7966 or better (B1 for 0.8, 0.80, 0.79, 0.796, 0.797 or digits 59 seen) |
| 17 | $6x - 7 + 7 = 38 + 7$ $6x = 45$ | 7.5 | 2 | M1 $6x = 45$ or $+7$ both sides A1 7.5 oe; accept 45/6 oe |
| 18 | 55 61 74 190 33 17 10 60 88 78 84 250 | 55 61 74 190 33 17 10 60 88 78 84 250 | 3 | B3 all six entries correct (B2 for 4 or 5 entries correct) (B1 for 2 or 3 entries correct) |
| 19 (a) | $900 \times 1.70 =$ | 1530 | 2 | M1 $900 \times 1.7(0)$ or digits 153(0) seen A1 cao |
| (b) | $160 \div 1.70 =$ | £94.12 or £94.11 | 2 | M1 $160 \div 1.7(0)$ or digits 941(...) seen A1 cao |
| 20 (a)(i) | $180 - 54 (=126)$ "126" $\div 2$ | 63 | 3 | M1 for $(180-54) \div 2$ A1 cao |
| (ii) | | Reason | | B1 (indep) angles in triangle add to 180 OR equal angles in isosceles triangle OR equal angles and 2 sides the same (B0 if any incorrect reasoning given eg parallel, equilateral triangle) |
| (b) | $180 - "x"$ | 117 | 1 | B1 117 or ft $180 - "x"$ if $x < 90$ |
| 21 (a) | $3 \times 35 + 50$ | 155 | 2 | M1 for $3 \times 35 + 50$ or digits 155 seen A1 cao |
| (b) | $260 - 50 = 210$ $210 \div 35 =$ | 6 | 3 | M1 for 260-50 or 210 seen. M1 for "260-50" $\div 35$ or $210 \div 35$ A1 cao SC B1 for starting at a number between 100 and 170 and adding at least two 35's and showing a total between 230 and 290 OR For adding at least three 35's, perhaps with other numbers, and showing a total between 180 and 240 (or between 230 and 290 if 50 is included in the sum) |

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| (c) | | $P=35h + 50$ | 3 | B3 for $P=35h+50$ or $P=35 \times h+50$ oe (B2 for correct RHS or $P=h + 50 \times 35$ or $P=35h+k$ where k is numerical oe) (B1 for $P =$ some other linear expression in h , OR $h + 50 \times 35$ OR $35h$ seen) NB: $P=h$ scores no marks; ignore £ signs. SC B2 for $h = \frac{P-50}{35}$ |
| 22 (a) |  | Elevation | 2 | B2 for 4 vertical squares. Accept 4 by 1 rectangle. (B1 for 4 vertical squares with one square added or one parallelogram added at the top, or 3 vertical squares, or 4 horizontal squares) |
| (b) |  | Plan | 2 | B2 for 2 adjacent squares, vertical or horizontal. Accept 2 by 1 rectangle. (B1 for 3 adjacent horizontal or vertical squares or a rectangle with sides in the ratio 2:1) |
| 23 (i) | | 5 | 3 | B1 cao |
| (ii) | | 9 | | B1 cao |
| (iii) | | 6 | | B1 cao |
| 24 | $45.00 + 45.00 \times \frac{15}{100} =$ $45.00 + 6.75 =$ | 51.75 | 3 | M2 for $45.00 + 45.00 \times \frac{15}{100}$ oe or 45.00×1.15 oe OR $45.00 + 6.75$ OR complete method or 5175 seen. (M1 for $45.00 \times \frac{15}{100}$ oe OR 6.75 seen OR 675 seen OR correct method for calculating 15% of 45) A1 cao SC Award B2 for an answer of 38.25 |

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| 25 (a) (b) (c) (d)(i) (ii) | | Points Negative lobf 18–25 30–40 | 1 1 1 2 | B1 all three points ± 1 full square B1 Negative (ignore additional descriptors unless contradictory) B1 A single straight line drawn to cross between (5,30), (5,40) and (40,0), (40,15); accept freehand if considered to be straight. B1 18g–25g inclusive OR if not in this range ft ± 1 square dep on single straight line with negative gradient. B1 30–40 min inclusive OR if not in this range ft ± 1 square dep on single straight line with negative gradient |
| 26 | | 300 3 75 150 | 3 | B3 for 4 correct answers (B2 for 2 or 3 correct answers) (B1 for 1 correct answer) |
| 27 | $\pi \times 0.65$ | 2.04–2.05 | 2 | M1 for $\pi \times 0.65$ or 3.14×0.65 or 3.142×0.65 A1 for 2.04–2.05 SC Award B1 for 2.0 seen (not 2) |
| 28 | 5 miles = 8 km $70\text{mph} \div 5 \times 8 = 112 \text{ km/h}$ OR $120\text{km/h} \div 8 \times 5 = 75 \text{ mph}$ Faster than 70 mph | 70mph (Great Britain) (112 km) | 3 | M1 5 miles = 8 km; OR 70 mph is about 100 km/h OR 1km=0.6(25) miles OR 1mile=1.6km oe M1 $70 \div 5 \times 8 (=112)$ or $120 \div 8 \times 5 (=75)$ A1 (dep on at least M1) GB or 70 mph Refer to both answer line and working. NB GB or 70 mph without working scores 0 marks |