| **Paper 1MA1: 3F**  |
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| **Question** | **Working** | **Answer** | **Notes** |
| 1 |  | 6000 | B1 cao |
| 2 |  | 5.25 | B1 cao |
| 3 |  | 8 | B1 cao  |
| 4i ii |  | 122 or 5 | B1 caoB1 |
| 5 |  | 1.75*l* or 1750 m*l* | B1 for knowledge of 1 litre is 1000 millilitresP1 for adding their two amountsC1 for 1.75*l* or 1750 m*l* (must include units) |
| 6(a)6(b) |  | 835 | B1 8 ±2mmB1 35 ±2˚ |
| 7(a)7(b)7(c) |  | 512$$d^{5}$$ | B1 caoB1 caoB1 |
| 8 |  | Statement | C1 for a full explanation  |
| 9 |  | −16, 32 | P1 for 48 ÷ 6P1 for a complete process to find either A or BA1  |

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| 10 |  | 3815 | B1 caoP1 (47-2) ÷ 3A1 cao |
| 11(a)11(b) |  | 7256 | B1 caoB1 cao |
| 12 |  | Yes with evidence | C1 for writing down at least two squares numbersP1 for adding square numbers A1 cao with supporting evidence |
| 13 |  |  − 4 and −10 | M1 for repeated subtraction of 6 oe A1 − 4 A1 −10 |
| 14(a)14(b)14(c) |  | Angle markedFace shaded12 | B1 caoB1 caoB1 cao |
| 15 |  | 2 | P1 for correct process to find fibre for 400*g* P1 for a complete process to find the fibre per slice A1 cao |
| 16 (i) (ii) (iii) |  | 3 options shown | C1 Diagram with decreased perimeter drawnC1 Diagram with same perimeter drawnC1 Diagram with increased perimeter drawn |

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| 17(a)17(b) |  | 70, 40 and 55Explanation | P1 for a method to find one of angles eg (180 - 70) ÷ 2 or 70 stated as the equal or 180 – 2 × 70P1 for a method to find a angleA1 for 70, 40 and 55 ( any order)C1 Explanation eg only one option once an obtuse angle given |
| 18(a)18(b) |  | 1:1.5$$\frac{3}{4}$$ | M1 for 40:(100-40) A1 caoB1  |
| 19 | 3.69 × 2 = 7.38 | 19 | P1 for 7.38 repeatedly added at least 6 times OR 50 ÷ 7.38P1 for 6 × 7.38 + 3.69 A1 19 boxes |
| 20 |  | Venn diagram | M1 for two overlapping and labelled ovalsM1 for 2 and 6 in the intersectionM1 for 5 and 7 in the universal set onlyC1 for a fully correct Venn Diagram |

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| 21(a)21(b)(i)(ii)21(c)21(d) |  | (4,10)Line drawnPositiveValue between 60 and 70Statement | B1 caoB1 Straight line drawn passing between (2,20) and (2,30) AND(13,86) and (13,94)C1 positive C1 a correct value givenC1 for referring to the danger of extrapolation outside the given range or for a given pointEg line of best fit may not continue or full marks are hard to achieve no matter how much revision is done |
| 22 |   | 12.5 ≤ L < 13.5 | B1 12.5B1 13.5 |
| 23 |  | $$y=2x+1$$ | M1 for a method to find the gradientM1 for a method to find the c in *y* = m*x* + cA1 $y=2x+1$ oe in this format  |
| 24(a) | (720+408+304+252)÷50 | 33.68 | M1 for finding 4 products *fw* consistently within interval (including end points)M1 (dep on 1st M) for 'Ʃ*fw*'÷50A1 cao  |
| 24(b) |  | Manager with reasons | M1 for strategy to compare number of small size sold to number orderedC1 clear comparison that small size is not ¾ and so Jenny is not correct or the manager is correct |

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| 25(a)25(b) | 160 tiles18 packs 176 tiles 20 packs | 18Supported statement | M1 a full method to find the area of the trapeziumM1 a full method to convert all areas to consistent unitsM1 for the area of the trapezium ÷ area of a tileM1 for communication of the number of whole packs requiredA1 P1 finding that 10% extra requires two more packs or 10% of 18C1Statement eg. increase in packs is 2 more which is more than 10%  |
| 26 |  | $$\left(x-1\right)\left(x+4\right)$$ | M1 $\left(x\pm 1\right)\left(x\pm 4\right)$A1 $\left(x-1\right)(x+4)$ oe |
| 27 |  | *A* and *D* | C1 in any order |
| 28 |  | 1.0625 | P1 for a complete process to find the density of liquid AP1 for a complete process to find the mass of liquid CP1 for a complete process to find the density of liquid C A1 cao |