| **Paper 1MA1: 3H**  |
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| **Question** | **Working** | **Answer** | **Notes** |
| 1(a)1(b)(i)1(b)(ii)1(c)1(d) |  | (4,10)Line drawnPositiveValue between 60 and70Statement | 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 |
| 2 |   | 12.5 ≤ L < 13.5 | B1 12.5B1 13.5 |
| 3 |  |  | M1 for a method to find the gradientM1 for a method to find the c in *y* = m*x* + cA1 oe in this format  |
| 4(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*ft*w÷50A1 cao  |

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| **Question** | **Working** | **Answer** | **Notes** |
| 4(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 |
| 5(a)5(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%  |
| 6 |  |  | M1 A1 oe |
| 7 |  | A and D | C1 in any order |
| 8(a)8(b) |  | 2500Saver account with support | P1 for use of 1.03P1 for a full method equivalent to ÷1.03²A1 2500P1 process to find a comparable total interest figure A1 for conclusion with supporting statement eg 21.(665..)>21 |
| 9 |  | 0.664(09..) | P1 for finding the difference in height by ratio or multiplierP1 for use of tan ratioP1 (dep) for 0.85÷tan52 A1 awrt 0.664 |

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| **Question** | **Working** | **Answer** | **Notes** |
| 10 |  | Region R | M1 for one line correctly drawn M1 for two or more lines correctly drawnA1 for a correct region indicated between two correct linesA1 fully correct region indicated with all lines correct |
| 11 |  |  | M1 for A1 cao |
| 12 |  | 431 | B1 for use of Pythagoras involving the unknown length P1 for setting up an equation equivalent to P1 for finding the volume using their “A1awrt 430.5  |
| 13 |  | 168 | M1 product of 14 and 12A1 cao |
| 14 |  |  | B1 for factorising to get M1 for dealing with the division of by M1 for two correct fractions with a common denominator or a correct single fractionA1  |
| 15(a)15(b) |  | 3906Decision | P1 1000 000 ÷ 256A1 3906 or 3907 or 3900 or 3906.25C1 Decision and supporting statementEg no never zero or yes cannot have a part errorNote just yes or no will score zero |

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| **Question** | **Working** | **Answer** | **Notes** |
| 16 |  | (6, −1) | M1 for a method showing the translation of a graph or a correct coordinateA1 cao |
| 17 |  | 20736 | P1 for a method to find the slant height of the cone eg or by similar triangles and Pythagorean triplesP1 for setting up an equation for the curved surface area in terms of *x* eg P1 for complete method to find the value of *x*P1 for a method to find the volumeA1 cao |
| 18 |  | 0.49 | P1 for P1 for (1-)²A1 cao |
| 19(a) (b) |  | 4.23 × 10-445000 | B1B1 |
| 20 |  | 55 | P1 for  (=6.5)P1 for 2 × “6.5”3 ÷ 10 (=54.925)A1 cao |

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| **Question** | **Working** | **Answer** | **Notes** |
| 21(a)21(b)21(c) | = 3.29296875 = 3.276659786 = 3.279420685 | Re arrangement3.28Statement | M1 for re arranging to = C1 a clear step to show re arrangementM1 for one correct iterationM1 for 2 further iterations seenA1 caoC1 Statement eg iteration is an estimation of the solution |
| 22 |  | Proof | B1 state the difference of two squares in algebraic notation eg M1 for writing down expressions for the two different numbers eg  M1 for expanding one bracket to obtain 4 terms with all 4 correct without considering signs or for 3 terms out of 4 correct with correct signs A1 for oeM1 (dep M2) for extracting a factor of 12 from their expressionC1 for fully correct working with statement justifying (3() +1) as a multiple of 2 eg considering odd and even combinations  |