| **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 drawn  Positive  Value between 60 and70  Statement | B1 cao  B1 Straight line drawn passing between (2,20) and (2,30) AND  (13,86) and (13,94)  C1 positive  C1 a correct value given  C1 for referring to the danger of extrapolation outside the given range or for a given point  Eg 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 12.5  B1 13.5 |
| 3 |  |  | M1 for a method to find the gradient  M1 for a method to find the c in *y* = m*x* + c  A1 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÷50  A1 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 ordered  C1 clear comparison that small size is not ¾ and so Jenny is not correct or the manager is correct |
| 5(a)  5(b) | 160 tiles  18 packs  176 tiles  20 packs | 18  Supported statement | M1 a full method to find the area of the trapezium  M1 a full method to convert all areas to consistent units  M1 for the area of the trapezium ÷ area of a tile  M1 for communication of the number of whole packs required  A1  P1 finding that 10% extra requires two more packs or 10% of 18  C1Statement 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) |  | 2500  Saver account with support | P1 for use of 1.03  P1 for a full method equivalent to ÷1.03²  A1 2500  P1 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 multiplier  P1 for use of tan ratio  P1 (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 drawn  A1 for a correct region indicated between two correct lines  A1 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 12  A1 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 fraction  A1 |
| 15(a)  15(b) |  | 3906  Decision | P1 1000 000 ÷ 256  A1 3906 or 3907 or 3900 or 3906.25  C1 Decision and supporting statement  Eg no never zero or yes cannot have a part error  Note 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 coordinate  A1 cao |
| 17 |  | 20736 | P1 for a method to find the slant height of the cone eg or by similar triangles and Pythagorean triples  P1 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 volume  A1 cao |
| 18 |  | 0.49 | P1 for  P1 for (1-)²  A1 cao |
| 19(a)  (b) |  | 4.23 × 10-4  45000 | B1  B1 |
| 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 arrangement  3.28  Statement | M1 for re arranging to =  C1 a clear step to show re arrangement  M1 for one correct iteration  M1 for 2 further iterations seen  A1 cao  C1 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 oe  M1 (dep M2) for extracting a factor of 12 from their expression  C1 for fully correct working with statement justifying  (3() +1) as a multiple of 2 eg considering odd and even combinations |