Band 5 – Test 2 Answers

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| 1. | 12.75 ÷ 0.75 = £17 | 1 mark for correct multiplier1 mark for ÷1 mark for correct answer | 3 |
| 2. | T α RT = kR32 = k x 120k = 4 15T = 4R 15 T = 4 x 150 = 40 15 | 1 mark for calculating k1 mark for correct formula1 mark for substituting R1 mark for correct answer | 4 |
| 3. | 272/3 = $\sqrt[3]{27}^{2}$ = $3^{2}$ = 9 | 1 mark for $\sqrt[3]{}$1 mark for squaring answer | 2 |
| 4. | (5 x 104) x (6 x 109)= 5 x 6 x 1013= 30 x 1013= 3 x 1014 | 1 mark for 3 or 30 seen1 mark for correct answer | 2 |

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| 5. |

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| **x** | -2 | -1 | 0 | 1 | 2 |
| **y** | -12 | -4 | -2 | 0 | 8 |

 | 1 mark for 2 y values correctOr 2 marks for all y values correct1 mark for correct coordinates plotted1 mark for correct graph drawn | 4 |

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| 6. | m = 6/3 = 2L2: y = 2x + c5 = 2(0) + cc = 5y = 2x + 5 | 1 mark for calculating gradient1 mark for substituting to find c1 mark for correct answer | 3 |
| 7. | (x – 8)(x + 7)x = 8 or -7 | 1 mark for 7 or 8 seen1 mark for correct factorisation1 mark for correct answer | 3 |
| 8. |  4x + 2y = 8 x2 2x – 5y = 10 x4 8x + 4y = 168x – 20y = 40 -\_ 24y = -24 y = -1\_\_\_ 4x + 2y = 8  4x – 2 = 8 4x = 10 x = 2.5 |  4x + 2y = 8 x5 2x – 5y = 10 x220x + 10y = 40 4x – 10y = 20 + 24x = 60 x = 2.5\_\_\_\_ 4x + 2y = 8 10 + 2y = 8 2y = -2 y = -1 | 1 mark for scaling up correctly1 mark for calculating 1 variable1 mark for correct substitution1 mark for calculating other variable0 marks if non-algebraic method used | 4 |
| 9. |  5(x – 3) = y(4 – 3x) 5x – 15 = 4y – 3xy 5x + 3xy = 4y + 15 x(5 + 3y) = 4y + 15 x = 4y + 15 5 + 3y | 1 mark for expanding brackets1 mark for getting all xs to one side1 mark for factorising1 mark for correct answer | 4 |
| 10. | 4p – 8 < 7 – p5p – 8 < 7 5p < 15 p < 3 | 1 mark for 31 mark for correct inequality symbol used | 2 |
| 11. | PQ = SR as opposite sides of parallelogram are equalQR = PS as opposite sides of parallelogram are equalQS shared by both trianglesSSS proves congruence | 1 mark for PQ = SR & QR = PS1 mark for QS1 mark for SSS oe in words | 3 |
| 12. |  | 1 mark for line 1.5 cm from patio1 mark for circle radius 3 from pond1 mark for correct region shaded | 3 |
| 13. | x = 10 x sin40 = 6.42787… = 6.43 cm | 1 mark for use of sin1 mark for correct working1 mark for correctly rounded answer | 3 |
| 14. |  | 1 mark for identifying C of E1 mark for correct enlargement of ½1 mark for enlargement in correct place1 mark for correct x movement1 mark for correct y movement | 5 |
| 15. | 150 x 13² x π = 221.22… 221 cm² 360 | 1 mark for correct fraction1 mark for correct working1 mark for correct answer | 3 |
| 16. | $\frac{\frac{4}{3} x π x 3^{3}}{2}$ + $π x 3^{2} x 30$ = 18π + 270π = 904.7786… = 905 cm³ | 1 mark for volume of cylinder1 mark for volume of hemisphere1 mark for correct answer | 3 |
| 17. | 5 x 2.5 = 12.5 cm4.8 x 2.5 – 4.8 = 12 – 4.8 = 7.2 cm | 1 marks for each correct working1 mark for each correct answer | 4 |
| 18. |

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| **Number of cups of coffee** | **Frequency** | **M x f** |
| 2 | 1 | 2 |
| 3 | 3 | 9 |
| 4 | 5 | 20 |
| 5 | 8 | 40 |
| 6 | 5 | 30 |

Mean = 101 = 4.59090… = 4.6 cups 22 | 1 mark for correct third column1 mark for Σmf Σf1 mark for correct answer rounded correctly | 3 |
| 19. | \_88\_ x 50 = 17.05426… 17 students 258 | 1 mark for correct working1 mark for correct answer | 2 |
| 20. | P(S and S or P and P or C and C)= 3 x 2 + 2 x 1 + 4 x 3 = 6 + 2 + 12 = 20 9 8 9 8 9 8 72 72 72 72 | 1 mark for 1st yoghurt correct1 mark for 2nd yoghurt correct1 mark for correct working1 mark for correct answer | 4 |