Band 6 – Test 3 Answers

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| 1. | 100x = 45.4545…  - x = 0.4545…  99x = 45  x = = | 1 mark for x100  1 mark for calculating x  1 mark for answer in simplest form | 3 |
| 2. | UB C = 170.5 UB d = 54.5  LB C = 169.5 LB d = 53.5  UB = = 3.18 LB = = 3.11 | 1 mark for correct UB/LB circumference  1 mark for correct UB/LB diameter  1 mark for each correct answer | 4 |
| 3. | √60 = 4 x √15 = 2√15 | 1 mark for correct working  1 mark for correct answer | 2 |
| 4. | Gradient = -1 ÷ 2 = -½  y = -½x + c  7 = -½(4) + c  c = 9  y = -½x + 9 | 1 mark for gradient  1 mark for y-intercept  1 mark for correct answer | 3 |

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| 5. | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **x** | -2 | -1 | 0 | 1 | 2 | | **y** | 1/16 | 1/4 | 1 | 4 | 16 | | 1 mark for at least 2 y values correct  Or 2 marks for all y values correct  1 mark for coordinates plotted correctly  1 mark for correct graph drawn | 4 |

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| 6. | x³ - 3x² - 2x + 5 = 0  x³ - 2x + 5 = 3x²  = x  = x  x1 = 2.9439…  x2 = 2.8650…  x3 = 2.7561…  x4 = 2.6091… = 2.609 | 1 mark for isolating x²  1 mark for correct answer  1 mark for at least 2 correct iterations  1 mark for answer rounded correctly | 4 |
| 7. | x = ¾ or -1/3 | 1 mark for correct working  1 mark for correct factorisation  1 mark for correct answer | 3 |
| 8. | x² + x – 3 = 0  x = 1.30 or -2.30 | 1 mark for rearranging to equal 0  1 mark for correct substitution  1 mark for correct answer | 3 |
| 9. |  | 1 mark for dotted line  1 mark for correct side indicated | 2 |
| 10. |  | 1 mark for C of E correctly identified  1 mark for SF -2  1 mark for correct enlargement | 3 |
| 11. | = 9.1104… = 9.11 cm | 1 mark for 2 dimensions squared  1 mark for correct working  1 mark for correct conclusion | 3 |
| 12. | = 12.1655…  tan-1 = 22.342538… 22.3º | 1 mark for oe  1 mark for tan used  1 mark for correct working  1 mark for answer rounded correctly | 4 |
| 13. | ½ x 11.7 x 28.3 x sin67 = 143.80629… = 144 cm² | 1 mark for correct substitution  1 mark for correct working  1 mark for correct answer | 3 |

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| 14. | 6 ÷ 4 = 1.5  80 x = 270 cm³ | 1 mark for sf 1.5  1 mark for correct working  1 mark for correct answer | 3 |
| 15. | |  |  |  |  | | --- | --- | --- | --- | | **Weight (*w* g.)** | **Frequency** | **Midpoint** | **M x f** | | 50 ≤ *w* < 60 | 5 | 55 | 275 | | 60 ≤ *w* < 70 | 9 | 65 | 585 | | 70 ≤ *w* < 80 | 22 | 75 | 1650 | | 80 ≤ *w* < 90 | 27 | 85 | 2295 | | 90 ≤ *w* < 100 | 17 | 95 | 1615 |   6420 = 80.25 grams  80 | 1 mark for correct third column  1 mark for correct fourth column  1 mark for Σmf  Σf  1 mark for correct answer rounded correctly | 4 |
| 16. | 4 < x ≤ 6  4 < x ≤ 6 | 1 mark for each correct answer | 2 |