Bands 2 – 4 Problem Solving – Test 3 Answers

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| 1. | £ 7.60  £ 9.50  £12.60  £14.50 +  £44.20\_\_  Alex will have enough, and he will have 80p left over | 1 mark for correct information selected from table  1 mark for prices added together  1 mark for correct answer  1 mark for correct conclusion | 4 |
| 2. | 10 000 x 0.995 = 9950  10 000 – 9950 = 50  **or**  1 – 0.995 = 0.005  10 000 x 0.005 = 50 | 1 mark for 1 – or 10 000 –  1 mark for multiplying by 0.995 or 0.005  1 mark for correct answer | 3 |
| 3. | 500 ÷ 35 = 14 r 10 **or** 14.28  One box will last 14 days, so yes it will last 2 weeks  130 = 13 = 6.5 = 6.5%  2000 = 200 = 100  23 x 7 x 30 = 23 x 210 = 4830 cm³  = 161 x 30 = 4830 cm³  = 690 x 7 = 4830 cm³ | 1 mark for 500 ÷ 35  1 mark for 14 seen  1 mark for correct conclusion  1 mark for  1 mark for  1 mark for calculation  1 mark for correct answer  1 mark for correct units | 8 |

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| 4. | 94 singles:  94 x £2.99 = £281.06  12 boxes:  12 x £16.95 = £203.40  11 boxes and 6 singles:  (11 x £16.95) + (6 x £2.99) = £186.45 + £17.94 = £204.39  Cheapest way to buy is 12 boxes | 1 mark for cost of 94 singles  1 mark for cost of 12 boxes  1 mark for cost of 11 boxes  1 mark for cost of 6 singles  1 mark for correct conclusion | 5 |
| 5. | |  |  | | --- | --- | | **Paints R Us** | **Deco Mart** | | 6 tins needed  Pay for 4  4 x £2.40 = £9.60 | 15% of £2.00 = 30p  £2.00 – 30p = £1.70  6 x £1.70 = £10.20 |   Ashley should buy from Paints R Us | 1 mark for 3 for 2 offer applied  1 mark for £9.60 seen  1 mark for 15% of £2.00 calculated  1 mark for subtracting from £2.00  1 mark for £10.20 seen  1 mark for correct conclusion | 6 |
| 6. | |  |  | | --- | --- | | **Caribbean Calypso** | **Royal European** | | 10% of £2329 = £232.90  £2329 – £232.90 = £2096.10  **or**  0.9 x £2329 = £2096.10 | 5% of £2147 = £107.35  £2147 - £107.35 = £2039.65  **or**  0.95 x £2147 = £2039.65 |   Debra and Mark should choose Royal European because it is cheaper by £56.45 | 1 mark for 10% of £2329 or 0.9 x £2329  1 mark for £2096.10  1 mark for 5% of £2147 or 0.95 x £2147  1 mark for £2039.65  1 mark for correct conclusion | 5 |
| 7. | 160 L x 365 = 58400 L = 58.4 cubic metres  58.4 x 91.22 = 5327.248p = £53.27  £53.27 + £28.20 = £81.47  Harry should have a water metre – it will save him £25.53 per year | 1 mark for amount used in litres  1 mark for amount used in cubic metres  1 mark for cost in pounds for water used  1 mark for total cost on meter  1 mark for correct conclusion | 5 |
| 8. | £3.50 + £3.50 + £2.50 + £2.20 = £11.70 to pay  €10 ÷ 1.25 = £8 paid in Euros  £11.70 - £8 = £3.70 to pay in pounds | 1 mark for adding everything together  1 mark for €10 = £8  1 mark for £11.70 - £8  1 mark for correct answer | 4 |
| 9. | Petra : Stephen = 1 : 3  £240 ÷ 1 : 3 = £60 : £80  **or**  Petra + Stephen = n + 3n = £240  n = £60  3n = £180 | 1 mark for 1 : 3 **or** n + 3n **or** ÷4  1 mark for £60  1 mark for £180 | 3 |
| 10. | 1 – ( + ) =  = 32 so = 8  = 2 x 8 = 16 marbles | 1 mark for attempt to subtract fractions from 1  1 mark for seen  1 mark for calculated  1 mark for correct answer | 4 |

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| 11. | N = 3  O = x  R = x – 10  T = 21  C = 294  294 = 3(x + x – 10 + 42)  294 = 3(2x + 32)  98 = 2x + 32  66 = 2x  33 = x  £33 | 1 mark for O or R substituted  1 mark for complete equation  1 mark for brackets expanded or ÷ 3  1 mark for correct answer | 4 |