2.22-3 Multi-Step Reasoning Challenge Set 3: 10-minute Pack

Total Marks

GL ASSESSMENT GL-11PLUS-MATHS · Calculators not allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Four pupils - Wren, Xavier, Yasmin and Zack - each play one sport: netball, hockey, tennis or badminton.

- Xavier plays hockey.
- Zack's sport is tennis.
- Wren does not play badminton.

Work out which sport Wren plays and which sport Yasmin plays.

(3)

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2 Concrete is made from sand and cement mixed in the ratio 5:2. A builder makes 35 kg of concrete. How many kilograms of cement does he use?

(2)

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3 A three-digit number is formed using each of the digits 2, 5 and 8 exactly once. How many of the possible three-digit numbers are both greater than 500 and even?

(3)

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4 After spending 2/5 of her money on rent, and then 3/8 of what remained on food, Naomi has £54 left. How much money did Naomi start with?

(3)

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Mark scheme · 2.22-3 Multi-Step Reasoning Challenge Set 3: 10-minute Pack

Question 1

recognises the two remaining sports for Wren and Yasmin are netball and badminton (oe)	**M1**
Wren plays netball cao	**A1**
Yasmin plays badminton cao	**A1**

Answer: Wren plays netball, Yasmin plays badminton

Question 2

recognises cement makes up 2/7 of the total mixture (oe)	**M1**
10 kg cao	**A1**

Answer: 10 kg

Question 3

lists all 6 permutations of 2, 5 and 8: 258, 285, 528, 582, 825, 852 (oe)	**M1**
identifies which are greater than 500 (first digit 5 or 8): 528, 582, 825, 852 (oe)	**M1**
3 cao, since only 528, 582 and 852 also end in an even digit	**A1**

Answer: 3 (the numbers 528, 582 and 852)

Question 4

recognises the £54 remaining is 5/8 of the amount left after rent, so finds 54 divided by 5/8 = £86.40 (oe)	**M1**
recognises £86.40 is 3/5 of the original amount, so finds 86.40 divided by 3/5 = £144 (oe)	**M1**
£144 cao	**A1**

Answer: £144

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