2.109-6 Logic Grids and Deduction Puzzles Set F: 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 - Amelia, Yusuf, Priya and Callum - joined different after-school clubs: chess, drama, swimming and coding. Each club is held on a different weekday Monday to Thursday. Clues: The chess club is on Monday. The pupil who joined coding attends on the day immediately after the drama club. Priya joined a club on Wednesday. Callum does not attend on Tuesday and did not join chess. Yusuf joined the drama club. Which club does Callum attend and on which day?

(5)

2 Four friends each bought a different cake from the school fete: chocolate, lemon, victoria sponge and carrot cake. Amelia bought the chocolate cake. Yusuf did not buy the lemon cake. Priya bought the victoria sponge. Callum bought the only cake left. Work out which cake each person bought.

(2)

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3 In a 100-m race four pupils finished in a certain order. Kwame finished immediately after Erin. Oliwia finished second. Noah did not finish last. Using the clues, state who finished third.

(2)

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4 Four pupils, Amelia, Yusuf, Priya and Noah, bought small items at the school shop. Prices available were £0.50, £0.75, £1.20 and £1.50. The pencil cost £0.50. The item bought at the Stationers cost twice as much as the ruler. Priya bought the sharpener. Noah did not buy the pencil; he paid £1.50. Which pupil paid £1.20?

(3)

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Mark scheme · 2.109-6 Logic Grids and Deduction Puzzles Set F: 10-minute Pack

Question 1

Place chess = Monday from the clue cao	**M1**
Yusuf = drama; drama cannot be Monday (chess) or Wednesday (Priya) and cannot be Thursday because coding must be the next day, so drama must be Tuesday oe	**M1**
Coding must be the day after drama, so coding = Wednesday and therefore Priya = coding cao	**M1**
Remaining day for Callum is Thursday (Callum not Tuesday and chess is Monday) so Callum attends on Thursday	**M1**
Therefore Callum attends the swimming club on Thursday cao	**A1**

Answer: Callum attends the swimming club on Thursday. (Chess Monday; Drama Tuesday = Yusuf; Coding Wednesday = Priya; Swimming Thursday = Callum.)

Question 2

Use given facts to place Amelia = chocolate and Priya = victoria and eliminate those options oe	**M1**
All four identified correctly: Amelia - chocolate, Yusuf - carrot, Priya - victoria, Callum - lemon cao	**A1**

Answer: Amelia - chocolate; Yusuf - carrot; Priya - victoria; Callum - lemon cake (the remaining cake). (Yusuf cannot be lemon so he must be carrot; Callum is the remaining buyer.)

Question 3

Place Oliwia = 2 and use Kwame immediately after Erin with Noah not last to deduce Erin = 3 and Kwame = 4 oe	**M1**
Third place is Erin cao	**A1**

Answer: Erin finished third. (One valid full order: Noah 1st, Oliwia 2nd, Erin 3rd, Kwame 4th.)

Question 4

Stationers must cost £1.50 and ruler £0.75 since those are the only pair where one price is twice the other (pencil is £0.50) oe	**M1**
Noah paid £1.50 so he bought the Stationers item; Priya bought the sharpener so she did not buy the pencil	**M1**
Therefore Priya paid £1.20 (sharpener = £1.20) cao	**A1**

Answer: Priya paid £1.20 for the sharpener. (Stationers item £1.50 = Noah; ruler £0.75; pencil £0.50; remaining price £1.20 is Priya's.)

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