2.47 Mixed Problem-Solving Paper A: Test Pack

GL ASSESSMENT GL-11PLUS-MATHS · Calculators not allowed · about 15 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A baker makes 15 trays of cupcakes. Each tray holds 12 cupcakes. She sells 134 cupcakes on Saturday. How many cupcakes are left unsold?

(2)

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2 In triangle ABC, angle A = 54 degrees and angle B is twice the size of angle C. Find the size of angle C.

(3)

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3 A box of raffle tickets contains 12 yellow tickets, 9 pink tickets and 3 orange tickets, and no others. One ticket is drawn at random. What is the probability that it is pink?

(3)

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4 A school bake sale raises money from three types of cakes: cupcakes, brownies and flapjacks. Cupcakes and brownies were sold in the ratio 5:4. The number of brownies sold was 3/5 of the number of flapjacks sold. Altogether, 141 cakes were sold. How many of each type of cake were sold?

(5)

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5 A coach leaves the school car park at 08:38. The journey to a theme park takes 1 hour 47 minutes. At what time does the coach arrive?

(2)

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6 Deepa buys 4 keyrings at £1.65 each and a birthday card for £2.30. She pays with a £10 note. How much change does she receive?

(3)

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Mark scheme · 2.47 Mixed Problem-Solving Paper A: Test Pack

Question 1

15 x 12 = 180 (or equivalent complete method)	**M1**
46 cao	**A1**

Answer: 46 cupcakes

Question 2

180 - 54 = 126 (sum of angles B and C)	**M1**
sets up 2C + C = 126, i.e. 3C = 126	**M1**
42 degrees cao	**A1**

Answer: 42 degrees

Question 3

12 + 9 + 3 = 24 (total number of tickets)	**M1**
9/24 identified as the probability before simplifying	**M1**
3/8 oe (accept 0.375 or 37.5%) cao	**A1**

Answer: 3/8

Question 4

sets cupcakes = 5k and brownies = 4k, from the ratio 5:4	**M1**
forms flapjacks = 4k x 5/3 = 20k/3, from brownies = 3/5 of flapjacks	**M1**
recognises k must be a multiple of 3 for whole numbers of cakes, and rewrites as cupcakes = 15m, brownies = 12m, flapjacks = 20m	**dM1**
forms 15m + 12m + 20m = 141, i.e. 47m = 141, so m = 3	**dM1**
cupcakes = 45, brownies = 36, flapjacks = 60, all three correct cao	**A1**

Answer: 45 cupcakes, 36 brownies, 60 flapjacks

Question 5

adds 1 hour to reach 09:38, or converts to a total of 107 minutes added	**M1**
10:25 (accept 10.25 am / 10:25 am) cao	**A1**

Answer: 10:25

Question 6

4 x 1.65 = 6.60	**M1**
6.60 + 2.30 = 8.90	**M1**
£1.10 cao	**A1**

Answer: £1.10

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