2.80 Ratio Sharing when the Difference is Given: 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 Three projects receive funds in the ratio 1:2:4. The middle project receives £6 more than the smallest. How many pounds does the smallest project receive?

- ☐ A) £2
- ☐ B) £3
- ☐ C) £4
- ☐ D) £6
- ☐ E) £12

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2 Two friends share a box of sweets in the ratio 7:3. The difference between their shares is 16 sweets. How many sweets does the larger friend receive?

- ☐ A) 16
- ☐ B) 21
- ☐ C) 28
- ☐ D) 32
- ☐ E) 40

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3 Two Year 6 classes, 6R and 6S, collect recycling tokens for a class competition in the ratio 3:4. Class 6S collects 9 more tokens than Class 6R. How many tokens do the two classes collect altogether?

- ☐ A) 9
- ☐ B) 27
- ☐ C) 36
- ☐ D) 54
- ☐ E) 63

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4 Two pupils share stickers in the ratio 2:5. The larger pupil has 21 more stickers than the smaller. How many stickers does the smaller pupil have?

- ☐ A) 7
- ☐ B) 9
- ☐ C) 14
- ☐ D) 28
- ☐ E) 35

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5 Two sisters share an inheritance in the ratio 5:7. The elder sister receives £4,200 more than the younger. Work out the smaller (younger) sister's share.

(2)

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6 Four people share prize money in the ratio 5:6:7:8. The person with 8 parts received £24 more than the person with 5 parts. Work out how much each person received.

(5)

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Mark scheme · 2.80 Ratio Sharing when the Difference is Given: 10-minute Pack

Question 1

correct option D (£6) cao **B1**

Answer: D) £6. Middle - smallest = 1 part so 1 part = 6; smallest = 1 x 6 = 6. | Working check: A/B/C) underestimate; E) total confusion.

Question 2

correct option C (28) cao **B1**

Answer: C) 28 sweets. One part = 16/4 = 4; larger = 7 x 4 = 28. | Working check: A) confuses difference with larger share; B/D) wrong division; E) uses total or sum error.

Question 3

correct option E (63) cao **B1**

Answer: E) 63. Difference = 4 - 3 = 1 part, so 1 part = 9; the classes collect 3 x 9 = 27 and 4 x 9 = 36, total 27 + 36 = 63 tokens. Working check: A) is the value of 1 part, B) and C) are the two classes' totals taken alone, D) doubles one class's total instead of adding both.

Question 4

correct option C (14) cao **B1**

Answer: C) 14 stickers. Difference = 3 parts so 1 part = 21/3 = 7; smaller = 2 x 7 = 14. | Working check: A/B) divide difference incorrectly; D/E) multiply wrong part.

Question 5

find 1 part = 4200/2 = 2100 **M1**

smaller share = 5 x 2100 = 10,500 cao **A1**

Answer: £10,500 (younger sister). Working check: difference = 7-5 = 2 parts so 1 part = 4200/2 = 2100; younger = 5 x 2100 = £10,500.

Question 6

recognise difference 8-5 = 3 parts **M1**

find 1 part = 24/3 = 8 **M1**

calculate at least two individual amounts using 1 part **M1**

calculate remaining amounts correctly **M1**

full correct set: 40, 48, 56, 64 cao **A1**

Answer: They received £40, £48, £56 and £64 respectively. Working check: 8-5 = 3 parts so 1 part = 24/3 = 8. Then 5x8 = 40, 6x8 = 48, 7x8 = 56, 8x8 = 64.

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