2.80 Ratio Sharing when the Difference is Given: 30-minute Pack

Total Marks

GL ASSESSMENT GL-11PLUS-MATHS · Calculators not allowed · about 30 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Two neighbours split vegetable plants in the ratio 4:9. The neighbour with the larger share has 15 more plants than the other. How many plants did they have altogether?

- ☐ A) 21
- ☐ B) 27
- ☐ C) 36
- ☐ D) 39
- ☐ E) 66

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2 Two runners share prize money in the ratio 5:8. The larger share is £12 more than the smaller. How much does the larger runner receive?

- ☐ A) £16
- ☐ B) £20
- ☐ C) £24
- ☐ D) £32
- ☐ E) £48

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3 The amounts Albert and Ben receive are in the ratio 2:3. Albert receives £5 less than Ben. How many pounds does Albert receive?

- ☐ A) £5
- ☐ B) £7
- ☐ C) £10
- ☐ D) £15
- ☐ E) £20

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4 Jack and Sana share some stamps in the ratio 3:5. Sana gets 6 stamps more than Jack. How many stamps does Jack receive?

- [ ] A) 15
- [ ] B) 10
- [ ] C) 6
- [ ] D) 9
- [ ] E) 3

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5 Two youth sports clubs share a sponsorship payment in the ratio 5:13. The larger club receives £24 more than the smaller club. Work out how much the smaller club receives.

- [ ] A) £3
- [ ] B) £15
- [ ] C) £24
- [ ] D) £54
- [ ] E) £39

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6 Two allotment holders share the cost of seed and compost in the ratio 3:5. The one who pays more pays £32 more than the other. How much does the one who pays more actually pay?

- [ ] A) £80
- [ ] B) £16
- [ ] C) £32
- [ ] D) £48
- [ ] E) £128

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7 Priya and Grace share some shells in the ratio 5:8. Grace gets 27 shells more than Priya. How many shells does Priya receive?

- [ ] A) 46
- [ ] B) 27
- [ ] C) 9
- [ ] D) 72
- [ ] E) 45

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8 Two cousins share a birthday gift of money from their grandparents in the ratio 3:5. The cousin with the larger share receives £60 more than the other cousin. How much does the cousin with the smaller share receive?

- [ ] A) £150
- [ ] B) £240
- [ ] C) £90
- [ ] D) £60
- [ ] E) £30

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9 A lottery syndicate splits a win between two members in the ratio 6:11. The member with the larger share receives £10 more than the other member. How much does the member with the smaller share receive?

- [ ] A) £34
- [ ] B) £2
- [ ] C) £22
- [ ] D) £12
- [ ] E) £10

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10 Ravi and Ffion share some football cards in the ratio 1:4. Ffion gets 12 football cards more than Ravi. How many football cards are there altogether?

- [ ] A) 12
- [ ] B) 4
- [ ] C) 20
- [ ] D) 16
- [ ] E) 48

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11 A charity divides a sum in the ratio 2:7. The difference between the shares is £25. What is the total amount given out?

- [ ] A) £45
- [ ] B) £10
- [ ] C) £5
- [ ] D) £25
- [ ] E) £35

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12 Maya and Lily share some money in the ratio 3:4. Lily gets £9 more than Maya. How much does Maya receive?

- [ ] A) £28.00
- [ ] B) £27.00
- [ ] C) £63.00
- [ ] D) £9.00
- [ ] E) £36.00

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13 A group divides a donation in the ratio 2:7. The larger share is £35 more than the smaller. What is the smaller share?

- [ ] A) £35
- [ ] B) £7
- [ ] C) £49
- [ ] D) £63
- [ ] E) £14

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14 Ravi and Rhys share some football cards in the ratio 2:3. Rhys gets 8 football cards more than Ravi. How many football cards are there altogether?

- [ ] A) 41
- [ ] B) 8
- [ ] C) 40
- [ ] D) 16
- [ ] E) 39

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15 Kofi and Megan share some raffle tickets in the ratio 4:7. Megan gets 27 raffle tickets more than Kofi. How many raffle tickets does Kofi receive?

- [ ] A) 37
- [ ] B) 9
- [ ] C) 99
- [ ] D) 36
- [ ] E) 63

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16 Two sisters share an inheritance in the ratio 5:8. The elder sister receives £2,100 more than the younger. Work out the smaller (younger) sister's share.

- [ ] A) £700
- [ ] B) £3500
- [ ] C) £5600
- [ ] D) £2100
- [ ] E) £9100

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17 Dylan and Jack share some raffle tickets in the ratio 2:5. Jack gets 45 raffle tickets more than Dylan. How many raffle tickets are there altogether?

- [ ] A) 225
- [ ] B) 45
- [ ] C) 105
- [ ] D) 15
- [ ] E) 30

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18 Two market stalls split their Saturday takings in the ratio 5:7. The stall with the larger takings earned £14 more than the other stall. How much did the smaller-earning stall take?

- [ ] A) £7
- [ ] B) £35
- [ ] C) £14
- [ ] D) £49
- [ ] E) £84

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19 Rhys and Ethan share some money in the ratio 5:6. Ethan gets £8 more than Rhys. How much does Ethan receive?

- [ ] A) £40.00
- [ ] B) £47.00
- [ ] C) £8.00
- [ ] D) £48.00
- [ ] E) £88.00

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20 A lottery syndicate splits a win between two members in the ratio 8:11. The member with the larger share receives £15 more than the other member. How much does the member with the smaller share receive?

- [ ] A) £95
- [ ] B) £5
- [ ] C) £55
- [ ] D) £15
- [ ] E) £40

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21 Two children split apples in the ratio 4:5. The larger child has 9 more apples than the smaller. How many apples are there in total?

- [ ] A) 18
- [ ] B) 36
- [ ] C) 45
- [ ] D) 72
- [ ] E) 81

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22 Two cousins share a birthday gift of money from their grandparents in the ratio 2:5. The cousin with the larger share receives £45 more than the other cousin. How much does the cousin with the smaller share receive?

- [ ] A) £15
- [ ] B) £105
- [ ] C) £30
- [ ] D) £45
- [ ] E) £75

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23 Sana and Esme share some conkers in the ratio 5:6. Esme gets 3 conkers more than Sana. How many conkers does Esme receive?

- [ ] A) 15
- [ ] B) 19
- [ ] C) 33
- [ ] D) 18
- [ ] E) 3

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24 A prize fund is shared between a school choir and a school orchestra in the ratio 3:5. The orchestra receives £40 more than the choir. How much does the orchestra receive?

- ☐ A) £40
- ☐ B) £100
- ☐ C) £60
- ☐ D) £160
- ☐ E) £20

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25 Two market stalls split their Saturday takings in the ratio 5:7. The stall with the larger takings earned £10 more than the other stall. How much did the smaller-earning stall take?

- ☐ A) £25
- ☐ B) £35
- ☐ C) £5
- ☐ D) £10
- ☐ E) £60

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26 A charity divides money between three projects A: B: C = 3: 4: 5. Project C receives £80 more than project A. Work out how much Project B receives.

(3)

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27 Two allotment plots are planted with vegetables in the ratio 3:5. The larger plot has 18 more square metres of vegetables than the smaller plot. Work out the difference in area as a fraction of the TOTAL planted area, giving your answer in its simplest form.

(4)

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Mark scheme · 2.80 Ratio Sharing when the Difference is Given: 30-minute Pack

Question 1

correct option D (39) cao **B1**

Answer: D) 39 plants. Difference is 5 parts so 1 part = 15/5 = 3; shares 12 and 27; total 39. | Working check: A/B/C) mix up parts or take one share only; E) total if 15 was 1 part misapplied.

Question 2

correct option D (£32) cao **B1**

Answer: D) £32. Difference = 3 parts so 1 part = 12/3 = 4; larger = 8 x 4 = 32. | Working check: A/B/C) under-multiplying; E) uses sum of parts incorrectly.

Question 3

correct option C (£10) cao **B1**

Answer: C) £10. Difference = 1 part so 1 part = 5; Albert = 2 x 5 = 10. | Working check: A/B) think 5 is total not 1 part; D/E) scale errors.

Question 4

correct option D (9) cao; 5 - 3 = 2 parts is 6, so 1 part is 3 **B1**

Answer: D) 9

Question 5

correct option B (£15) cao **B1**

Answer: B) £15

Question 6

correct option A (£80) cao **B1**

Answer: A) £80

Question 7

correct option E (45) cao; 8 - 5 = 3 parts is 27, so 1 part is 9 **B1**

Answer: E) 45

Question 8

correct option C (£90) cao **B1**

Answer: C) £90

Question 9

correct option D (£12) cao **B1**

Answer: D) £12

Question 10

correct option C (20) cao; 4 - 1 = 3 parts is 12, so 1 part is 4 **B1**

Answer: C) 20

Question 11

correct option A (£45) cao **B1**

Answer: A) £45

Question 12

correct option B (£27.00) cao; 4 - 3 = 1 parts is 9, so 1 part is 9 **B1**

Answer: B) £27.00

Question 13

correct option E (£14) cao **B1**

Answer: E) £14

Question 14

correct option C (40) cao; 3 - 2 = 1 parts is 8, so 1 part is 8 **B1**

Answer: C) 40

Question 15

correct option D (36) cao; 7 - 4 = 3 parts is 27, so 1 part is 9 **B1**

Answer: D) 36

Question 16

correct option B (£3500) cao **B1**

Answer: B) £3500

Question 17

correct option C (105) cao; 5 - 2 = 3 parts is 45, so 1 part is 15 **B1**

Answer: C) 105

Question 18

correct option B (£35) cao **B1**

Answer: B) £35

Question 19

correct option D (£48.00) cao; 6 - 5 = 1 parts is 8, so 1 part is 8 **B1**

Answer: D) £48.00

Question 20

correct option E (£40) cao **B1**

Answer: E) £40

Question 21

correct option E (81) cao **B1**

Answer: E) 81 apples. Difference = 1 part so 1 part = 9; shares 4x9 = 36 and 5x9 = 45; total 81. | Working check: A/B/C/D) common partial sums or one share only.

Question 22

correct option C (£30) cao **B1**

Answer: C) £30

Question 23

correct option D (18) cao; 6 - 5 = 1 parts is 3, so 1 part is 3 **B1**

Answer: D) 18

Question 24

correct option B (£100) cao **B1**

Answer: B) £100

Question 25

correct option A (£25) cao **B1**

Answer: A) £25

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Question 26

recognise difference C-A = 2 parts and find 1 part = 80/2 = 40	**M1**
calculate B = 4 x 40 = 160	**M1**
160 cao	**A1**

Answer: £160. Working check: C-A = 5-3 = 2 parts so 1 part = 80/2 = 40; B = 4 x 40 = 160.

Question 27

find 1 part = 18/(5-3) = 9	**M1**
find total area = (3+5) x 9 = 72 m²	**M1**
form the fraction 18/72	**M1**
simplify to 1/4 cao	**A1**

Answer: 1/4. Working check: 1 part = 18/2 = 9; total area = 8 x 9 = 72 m^2; difference as a fraction of total = 18/72 = 1/4.

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