2.36 Ratio and Proportion Depth: 1-hour Pack

GL ASSESSMENT EP.M40 · Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A bag of mixed nuts contains almonds, cashews and peanuts in the ratio 2 : 3 : 5. Calculate what fraction of the nuts in the bag are peanuts.

(2)

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2 A fruit squash is made from concentrate and water in the ratio 1 : 6. A jug holds 2.8 litres of squash in total. Calculate how much concentrate is in the jug.

(2)

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3 A printer prints pages at a constant rate. It prints 156 pages in 12 minutes. Calculate how many pages it would print in 20 minutes at the same rate.

(2)

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4 Zainab, Imogen and Noah share 110 raffle tickets in the ratio 5:3:2. How many more does the person with the largest share get than the person with the smallest?

- ☐ A) 3
- ☐ B) 77
- ☐ C) 55
- ☐ D) 32
- ☐ E) 33

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5 Mei, Hamza and Kwame share 84 sweets in the ratio 4:1:7. How many does Hamza get?

- [ ] A) 8
- [ ] B) 28
- [ ] C) 7
- [ ] D) 6
- [ ] E) 49

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6 Megan, Kwame and Harry share 54 pencils in the ratio 6:5:7. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 36
- [ ] B) 6
- [ ] C) 21
- [ ] D) 2
- [ ] E) 33

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7 Hamza, Lily and Priya share 110 conkers in the ratio 4:1:6. How many does Lily get?

- [ ] A) 10
- [ ] B) 11
- [ ] C) 40
- [ ] D) 100
- [ ] E) 60

---

8 Ethan, Megan and Declan share 16 shells in the ratio 2:5:1. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 4
- [ ] B) 8
- [ ] C) 12
- [ ] D) 10
- [ ] E) 6

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9 Sana, Ben and Dylan share 65 stamps in the ratio 3:4:6. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 35
- [ ] B) 16
- [ ] C) 30
- [ ] D) 3
- [ ] E) 15

---

10 Imogen, Ffion and Maya share 24 pencils in the ratio 6:1:5. How many does Ffion get?

- [ ] A) 1
- [ ] B) 12
- [ ] C) 2
- [ ] D) 8
- [ ] E) 10

---

11 Chloe, Arjun and Harry share 140 sweets in the ratio 2:7:5. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 90
- [ ] B) 5
- [ ] C) 70
- [ ] D) 50
- [ ] E) 51

---

12 Niamh, Grace and Sienna share 180 plants in the ratio 7:2:6. How many does Grace get?

- [ ] A) 156
- [ ] B) 84
- [ ] C) 72
- [ ] D) 24
- [ ] E) 12

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13 Hamza, Poppy and Isla share 48 stickers in the ratio 7:5:4. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 9
- [ ] B) 8
- [ ] C) 21
- [ ] D) 33
- [ ] E) 3

---

14 Rhys, Oliver and Grace share 154 stickers in the ratio 5:2:7. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 54
- [ ] B) 55
- [ ] C) 99
- [ ] D) 77
- [ ] E) 5

---

15 Niamh, Kofi and Poppy share 60 pencils in the ratio 2:1:3. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 21
- [ ] B) 40
- [ ] C) 20
- [ ] D) 2
- [ ] E) 30

---

16 Harry, Ravi and Ffion share 16 stamps in the ratio 2:1:5. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 6
- [ ] B) 4
- [ ] C) 10
- [ ] D) 2
- [ ] E) 8

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17 Arjun, Amara and Kwame share 192 football cards in the ratio 7:5:4. How many does Amara get?

- [ ] A) 48
- [ ] B) 59
- [ ] C) 132
- [ ] D) 60
- [ ] E) 84

---

18 Zainab, Ethan and Oliver share 39 stamps in the ratio 3:4:6. How many does Ethan get?

- [ ] A) 12
- [ ] B) 3
- [ ] C) 27
- [ ] D) 18
- [ ] E) 9

---

19 Fatima, Yusuf and Leo share 36 shells in the ratio 1:2:6. How many does Yusuf get?

- [ ] A) 7
- [ ] B) 4
- [ ] C) 12
- [ ] D) 8
- [ ] E) 24

---

20 Sienna, Jack and Maya share 66 raffle tickets in the ratio 2:3:6. How many does Jack get?

- [ ] A) 12
- [ ] B) 18
- [ ] C) 6
- [ ] D) 36
- [ ] E) 19

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21 Fatima, Aisha and Callum share 96 plants in the ratio 1:4:3. How many does Aisha get?

- [ ] A) 12
- [ ] B) 36
- [ ] C) 47
- [ ] D) 48
- [ ] E) 49

---

22 Ben, Jack and Noah share 143 beads in the ratio 3:6:4. How many does Jack get?

- [ ] A) 66
- [ ] B) 44
- [ ] C) 11
- [ ] D) 67
- [ ] E) 33

---

23 Megan, Leo and Arjun share 85 pencils in the ratio 4:7:6. How many does Leo get?

- [ ] A) 5
- [ ] B) 30
- [ ] C) 36
- [ ] D) 35
- [ ] E) 20

---

24 Hamza, Sana and Isla share 77 marbles in the ratio 1:2:4. How many does Sana get?

- [ ] A) 44
- [ ] B) 11
- [ ] C) 55
- [ ] D) 21
- [ ] E) 22

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25 Rhys, Tariq and Declan share 135 football cards in the ratio 5:6:4. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 81
- [ ] B) 2
- [ ] C) 18
- [ ] D) 54
- [ ] E) 90

---

26 Tariq, Ewan and Noah share 77 plants in the ratio 4:2:1. How many does Ewan get?

- [ ] A) 22
- [ ] B) 11
- [ ] C) 44
- [ ] D) 55
- [ ] E) 21

---

27 Harry, Isla and Chloe share 150 beads in the ratio 4:5:6. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 100
- [ ] B) 20
- [ ] C) 90
- [ ] D) 2
- [ ] E) 60

---

28 Amara, Grace and Oliver share 24 stickers in the ratio 3:4:5. How many does Grace get?

- [ ] A) 6
- [ ] B) 7
- [ ] C) 10
- [ ] D) 8
- [ ] E) 2

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29 Dylan, Tariq and Sana share 88 pencils in the ratio 4:6:1. How many does Tariq get?

- [ ] A) 48
- [ ] B) 8
- [ ] C) 40
- [ ] D) 32
- [ ] E) 49

---

30 Imogen, Kwame and Poppy share 70 beads in the ratio 3:6:5. How many does Kwame get?

- [ ] A) 25
- [ ] B) 5
- [ ] C) 40
- [ ] D) 15
- [ ] E) 30

---

31 Harry, Imogen and Declan share 84 sweets in the ratio 5:3:6. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 3
- [ ] B) 18
- [ ] C) 54
- [ ] D) 17
- [ ] E) 36

---

32 Sana, Poppy and Isla share 216 badges in the ratio 7:6:5. How many does Poppy get?

- [ ] A) 12
- [ ] B) 71
- [ ] C) 84
- [ ] D) 60
- [ ] E) 72

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33 Zainab, Maya and Kofi share 52 stickers in the ratio 3:4:6. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 11
- [ ] B) 12
- [ ] C) 3
- [ ] D) 36
- [ ] E) 24

---

34 Priya, Mei and Rhys share 48 plants in the ratio 7:3:6. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 12
- [ ] B) 21
- [ ] C) 9
- [ ] D) 11
- [ ] E) 4

---

35 Harry, Hamza and Chloe share 32 pencils in the ratio 2:5:1. How many does Hamza get?

- [ ] A) 19
- [ ] B) 8
- [ ] C) 20
- [ ] D) 4
- [ ] E) 21

---

36 Ewan, Fatima and Yusuf share 75 football cards in the ratio 2:6:7. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 10
- [ ] B) 5
- [ ] C) 25
- [ ] D) 24
- [ ] E) 35

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37 A publisher prints fiction and non-fiction books in the ratio 5 : 3. Calculate how many of each type of book are printed if the total print run is 96 books.

(2)

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38 Poppy, Fatima and Callum share 80 marbles in the ratio 5:3:2. How many more does the person with the largest share get than the person with the smallest?

- ☐ A) 25
- ☐ B) 23
- ☐ C) 3
- ☐ D) 24
- ☐ E) 40

---

39 Kwame, Niamh and Yusuf share 40 badges in the ratio 2:1:5. How many more does the person with the largest share get than the person with the smallest?

- ☐ A) 25
- ☐ B) 4
- ☐ C) 30
- ☐ D) 19
- ☐ E) 20

---

40 Hamza, Imogen and Sana share 65 pencils in the ratio 4:3:6. How many does Imogen get?

- ☐ A) 15
- ☐ B) 50
- ☐ C) 30
- ☐ D) 20
- ☐ E) 14

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41 Lily, Rhys and Grace share 121 marbles in the ratio 7:1:3. How many more does the person with the largest share get than the person with the smallest?

- ☐ A) 67
- ☐ B) 77
- ☐ C) 65
- ☐ D) 6
- ☐ E) 66

---

42 Chloe, Tariq and Declan share 52 raffle tickets in the ratio 1:5:7. How many does Tariq get?

- ☐ A) 28
- ☐ B) 20
- ☐ C) 21
- ☐ D) 19
- ☐ E) 4

---

43 Lily, Callum and Rhys share 24 beads in the ratio 5:1:2. How many does Callum get?

- ☐ A) 6
- ☐ B) 4
- ☐ C) 3
- ☐ D) 15
- ☐ E) 21

---

44 Grace, Arjun and Rhys share 96 sweets in the ratio 4:1:7. How many does Arjun get?

- ☐ A) 8
- ☐ B) 9
- ☐ C) 32
- ☐ D) 56
- ☐ E) 88

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45 Tariq, Noah and Imogen share 36 raffle tickets in the ratio 6:2:1. How many does Noah get?

- ☐ A) 8
- ☐ B) 4
- ☐ C) 9
- ☐ D) 12
- ☐ E) 24

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46 A youth club has 63 members. The ratio of members aged under 13 to members aged 13 and over is 2 : 5. Calculate the number of members aged 13 and over.

(2)

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47 Fatima, Ben and Ewan share 120 conkers in the ratio 1:5:4. How many does Ben get?

- ☐ A) 61
- ☐ B) 12
- ☐ C) 60
- ☐ D) 40
- ☐ E) 48

---

48 Tom, Zainab and Maya share 72 conkers in the ratio 1:6:2. How many does Zainab get?

- ☐ A) 16
- ☐ B) 48
- ☐ C) 47
- ☐ D) 8
- ☐ E) 24

---

49 Fatima, Noah and Aisha share 98 beads in the ratio 6:7:1. How many more does the person with the largest share get than the person with the smallest?

- ☐ A) 6
- ☐ B) 41
- ☐ C) 49
- ☐ D) 43
- ☐ E) 42

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50 Isla, Grace and Imogen share 20 raffle tickets in the ratio 7:1:2. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 12
- [ ] B) 13
- [ ] C) 6
- [ ] D) 14
- [ ] E) 11

---

51 Zainab, Megan and Ethan share 84 football cards in the ratio 3:6:5. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 36
- [ ] B) 18
- [ ] C) 3
- [ ] D) 19
- [ ] E) 48

---

52 Esme, Megan and Callum share 110 raffle tickets in the ratio 4:6:1. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 5
- [ ] B) 60
- [ ] C) 50
- [ ] D) 49
- [ ] E) 10

---

53 Lily, Grace and Ethan share 60 shells in the ratio 5:4:6. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 40
- [ ] B) 2
- [ ] C) 7
- [ ] D) 24
- [ ] E) 8

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54 Anya, Esme and Niamh share 36 stickers in the ratio 1:5:3. How many does Esme get?

- [ ] A) 12
- [ ] B) 4
- [ ] C) 19
- [ ] D) 20
- [ ] E) 21

---

55 Oliver, Leo and Tariq share 27 plants in the ratio 2:6:1. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 15
- [ ] B) 18
- [ ] C) 21
- [ ] D) 14
- [ ] E) 5

---

56 Imogen, Anya and Jack share 60 raffle tickets in the ratio 1:5:6. How many more does the person with the largest share get than the person with the smallest?

- [ ] A) 5
- [ ] B) 25
- [ ] C) 35
- [ ] D) 26
- [ ] E) 30

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57 A company's profit of £900 is divided between three partners, Owen, Priya and Zack, in the ratio 4 : 5 : 6. Zack donates one third of his share to charity and keeps the rest. Calculate how much money Zack keeps.

(3)

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Mark scheme · 2.36 Ratio and Proportion Depth: 1-hour Pack

Question 1

total parts found (2 + 3 + 5 = 10) **M1**

1/2 oe cao **A1**

Answer: 1/2

Question 2

total parts found (1 + 6 = 7) and 2.8/7 = 0.4 used, or equivalent method **M1**

0.4 litres oe (400 ml) cao **A1**

Answer: 0.4 litres (400 ml)

Question 3

rate found: 156/12 = 13 pages per minute **M1**

260 pages cao **A1**

Answer: 260 pages

Question 4

correct option E (33) cao; 110 / 10 = 11 per part **B1**

Answer: E) 33

Question 5

correct option C (7) cao; 84 / 12 = 7 per part **B1**

Answer: C) 7

Question 6

correct option B (6) cao; 54 / 18 = 3 per part **B1**

Answer: B) 6

Question 7

correct option A (10) cao; 110 / 11 = 10 per part **B1**

Answer: A) 10

Question 8

correct option B (8) cao; 16 / 8 = 2 per part **B1**

Answer: B) 8

Question 9

correct option E (15) cao; 65 / 13 = 5 per part **B1**

Answer: E) 15

Question 10

correct option C (2) cao; 24 / 12 = 2 per part **B1**

Answer: C) 2

Question 11

correct option D (50) cao; 140 / 14 = 10 per part **B1**

Answer: D) 50

Question 12

correct option D (24) cao; 180 / 15 = 12 per part **B1**

Answer: D) 24

Question 13

correct option A (9) cao; 48 / 16 = 3 per part **B1**

Answer: A) 9

Question 14

correct option B (55) cao; 154 / 14 = 11 per part **B1**

Answer: B) 55

Question 15

correct option C (20) cao; 60 / 6 = 10 per part **B1**

Answer: C) 20

Question 16

correct option E (8) cao; 16 / 8 = 2 per part **B1**

Answer: E) 8

Question 17

correct option D (60) cao; 192 / 16 = 12 per part **B1**

Answer: D) 60

Question 18

correct option A (12) cao; 39 / 13 = 3 per part **B1**

Answer: A) 12

Question 19

correct option D (8) cao; 36 / 9 = 4 per part **B1**

Answer: D) 8

Question 20

correct option B (18) cao; 66 / 11 = 6 per part **B1**

Answer: B) 18

Question 21

correct option D (48) cao; 96 / 8 = 12 per part **B1**

Answer: D) 48

Question 22

correct option A (66) cao; 143 / 13 = 11 per part **B1**

Answer: A) 66

Question 23

correct option D (35) cao; 85 / 17 = 5 per part **B1**

Answer: D) 35

Question 24

correct option E (22) cao; 77 / 7 = 11 per part **B1**

Answer: E) 22

Question 25

correct option C (18) cao; 135 / 15 = 9 per part **B1**

Answer: C) 18

Question 26

correct option A (22) cao; 77 / 7 = 11 per part **B1**

Answer: A) 22

Question 27

correct option B (20) cao; 150 / 15 = 10 per part **B1**

Answer: B) 20

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Question 28

correct option D (8) cao; 24 / 12 = 2 per part **B1**

Answer: D) 8

Question 29

correct option A (48) cao; 88 / 11 = 8 per part **B1**

Answer: A) 48

Question 30

correct option E (30) cao; 70 / 14 = 5 per part **B1**

Answer: E) 30

Question 31

correct option B (18) cao; 84 / 14 = 6 per part **B1**

Answer: B) 18

Question 32

correct option E (72) cao; 216 / 18 = 12 per part **B1**

Answer: E) 72

Question 33

correct option B (12) cao; 52 / 13 = 4 per part **B1**

Answer: B) 12

Question 34

correct option A (12) cao; 48 / 16 = 3 per part **B1**

Answer: A) 12

Question 35

correct option C (20) cao; 32 / 8 = 4 per part **B1**

Answer: C) 20

Question 36

correct option C (25) cao; 75 / 15 = 5 per part **B1**

Answer: C) 25

Question 37

total parts found (5 + 3 = 8) and 96/8 = 12 used, or equivalent method **M1**

fiction = 60 and non-fiction = 36 cao **A1**

Answer: Fiction = 60, non-fiction = 36

Question 38

correct option D (24) cao; 80 / 10 = 8 per part **B1**

Answer: D) 24

Question 39

correct option E (20) cao; 40 / 8 = 5 per part **B1**

Answer: E) 20

Question 40

correct option A (15) cao; 65 / 13 = 5 per part **B1**

Answer: A) 15

Question 41

correct option E (66) cao; 121 / 11 = 11 per part **B1**

Answer: E) 66

Question 42

correct option B (20) cao; 52 / 13 = 4 per part **B1**

Answer: B) 20

Question 43

correct option C (3) cao; 24 / 8 = 3 per part **B1**

Answer: C) 3

Question 44

correct option A (8) cao; 96 / 12 = 8 per part **B1**

Answer: A) 8

Question 45

correct option A (8) cao; 36 / 9 = 4 per part **B1**

Answer: A) 8

Question 46

total parts found (2 + 5 = 7) and 63/7 = 9 used, or equivalent method **M1**

45 cao **A1**

Answer: 45

Question 47

correct option C (60) cao; 120 / 10 = 12 per part **B1**

Answer: C) 60

Question 48

correct option B (48) cao; 72 / 9 = 8 per part **B1**

Answer: B) 48

Question 49

correct option E (42) cao; 98 / 14 = 7 per part **B1**

Answer: E) 42

Question 50

correct option A (12) cao; 20 / 10 = 2 per part **B1**

Answer: A) 12

Question 51

correct option B (18) cao; 84 / 14 = 6 per part **B1**

Answer: B) 18

Question 52

correct option C (50) cao; 110 / 11 = 10 per part **B1**

Answer: C) 50

Question 53

correct option E (8) cao; 60 / 15 = 4 per part **B1**

Answer: E) 8

Question 54

correct option D (20) cao; 36 / 9 = 4 per part **B1**

Answer: D) 20

Question 55

correct option A (15) cao; 27 / 9 = 3 per part **B1**

Answer: A) 15

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Question 56

correct option B (25) cao; 60 / 12 = 5 per part **B1**

Answer: B) 25

Question 57

total parts found (4 + 5 + 6 = 15) and unit value found: **M1**
900/15 = 60

dep: Zack's share found: 6 x 60 = 360 **M1**

£240 cao **A1**

Answer: £240

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