2.57-4 Number Puzzles and Logic Set D: 1-hour Pack

GL ASSESSMENT GL · Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 The sum of 5 consecutive numbers is 170. What is the largest of the 5 numbers?

- ☐ A) 37
- ☐ B) 32
- ☐ C) 36
- ☐ D) 39
- ☐ E) 34

---

2 Chloe and Arjun have £79 between them. Chloe has £13 more than Arjun. How much money does Arjun have, in pounds?

- ☐ A) 33
- ☐ B) 23
- ☐ C) 32
- ☐ D) 46
- ☐ E) 39.5

---

3 The sum of 3 consecutive numbers is 15. What is the largest of the 3 numbers?

- ☐ A) 7
- ☐ B) 6
- ☐ C) 5
- ☐ D) 4
- ☐ E) 8

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4 Grace and Aisha have 72 marbles between them. Grace has 2 more than Aisha. How many does Aisha have?

- ☐ A) 34
- ☐ B) 36
- ☐ C) 18.5
- ☐ D) 35
- ☐ E) 37

---

5 The sum of 5 consecutive odd numbers is 305. What is the largest of the 5 numbers?

- ☐ A) 61
- ☐ B) 57
- ☐ C) 65
- ☐ D) 64
- ☐ E) 67

---

6 The sum of 4 consecutive odd numbers is 104. What is the largest of the 4 numbers?

- ☐ A) 28
- ☐ B) 31
- ☐ C) 26
- ☐ D) 23
- ☐ E) 29

---

7 Three friends - Freddie, Grace and Oliver - each have a favourite pizza topping (pepperoni, cheese or mushroom) and each wears a different colour T-shirt (red, blue or green).

1. Freddie's favourite topping is pepperoni.
2. The friend with a blue T-shirt has cheese as their favourite topping.
3. Grace does not have a red T-shirt.
4. Oliver has a green T-shirt.

Work out each friend's favourite topping and T-shirt colour.

(4)

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8 Lily and Ravi have 24 points between them. Lily has 16 more than Ravi. How many does Ravi have?

- [ ] A) 12
- [ ] B) 20
- [ ] C) 40
- [ ] D) 4
- [ ] E) 3

---

9 Fatima and Chloe have 68 stickers between them. Fatima has 6 more than Chloe. How many does Fatima have?

- [ ] A) 6
- [ ] B) 31
- [ ] C) 34
- [ ] D) 37
- [ ] E) 62

---

10 The sum of 5 consecutive even numbers is 150. What is the smallest of the 5 numbers?

- [ ] A) 26
- [ ] B) 34
- [ ] C) 30
- [ ] D) 25
- [ ] E) 37.5

---

11 Maya and Fatima have £97 between them. Maya has £21 more than Fatima. How much money does Fatima have, in pounds?

- [ ] A) 37
- [ ] B) 21
- [ ] C) 38
- [ ] D) 48.5
- [ ] E) 59

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12 Esme and Arjun have 52 points between them. Esme has 12 more than Arjun. How many does Esme have?

- [ ] A) 40
- [ ] B) 31
- [ ] C) 20
- [ ] D) 26
- [ ] E) 32

---

13 The sum of 5 consecutive odd numbers is 195. What is the smallest of the 5 numbers?

- [ ] A) 36
- [ ] B) 39
- [ ] C) 48.75
- [ ] D) 43
- [ ] E) 35

---

14 Ewan and Esme have 80 stickers between them. Ewan has 10 more than Esme. How many does Esme have?

- [ ] A) 45
- [ ] B) 35
- [ ] C) 40
- [ ] D) 90
- [ ] E) 34

---

15 The sum of 5 consecutive numbers is 265. What is the smallest of the 5 numbers?

- [ ] A) 51
- [ ] B) 50
- [ ] C) 55
- [ ] D) 58
- [ ] E) 53

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16 The sum of the ages of Isla, Josh and Kofi is 39. Josh is twice as old as Isla. Kofi is 4 years older than Josh. How old is each of them?

(4)

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17 Zainab and Tariq have 74 marbles between them. Zainab has 36 more than Tariq. How many does Tariq have?

- ☐ A) 27.5
- ☐ B) 55
- ☐ C) 19
- ☐ D) 37
- ☐ E) 20

---

18 The sum of 4 consecutive numbers is 22. What is the largest of the 4 numbers?

- ☐ A) 8
- ☐ B) 4
- ☐ C) 5.5
- ☐ D) 7
- ☐ E) 9.5

---

19 The sum of 3 consecutive numbers is 105. What is the largest of the 3 numbers?

- ☐ A) 52.5
- ☐ B) 36
- ☐ C) 38
- ☐ D) 35
- ☐ E) 34

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20 Mei and Declan have 88 marbles between them. Mei has 8 more than Declan. How many does Declan have?

- [ ] A) 48
- [ ] B) 44
- [ ] C) 40
- [ ] D) 8
- [ ] E) 24

---

21 The sum of 5 consecutive numbers is 220. What is the largest of the 5 numbers?

- [ ] A) 46
- [ ] B) 44
- [ ] C) 55
- [ ] D) 42
- [ ] E) 49

---

22 Callum and Zainab have 78 stickers between them. Callum has 12 more than Zainab. How many does Zainab have?

- [ ] A) 22.5
- [ ] B) 39
- [ ] C) 12
- [ ] D) 33
- [ ] E) 45

---

23 The sum of 3 consecutive odd numbers is 51. What is the smallest of the 3 numbers?

- [ ] A) 17
- [ ] B) 14
- [ ] C) 15
- [ ] D) 20
- [ ] E) 19

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24 Callum and Sana have 55 points between them. Callum has 1 more than Sana. How many does Sana have?

- [ ] A) 26
- [ ] B) 28
- [ ] C) 14
- [ ] D) 27
- [ ] E) 27.5

---

25 The sum of 4 consecutive numbers is 50. What is the smallest of the 4 numbers?

- [ ] A) 11
- [ ] B) 14
- [ ] C) 12
- [ ] D) 16.5
- [ ] E) 12.5

---

26 Noah and Imogen have 67 points between them. Noah has 39 more than Imogen. How many does Noah have?

- [ ] A) 33.5
- [ ] B) 39
- [ ] C) 14
- [ ] D) 54
- [ ] E) 53

---

27 The sum of 4 consecutive numbers is 218. What is the smallest of the 4 numbers?

- [ ] A) 58.5
- [ ] B) 53
- [ ] C) 56
- [ ] D) 52
- [ ] E) 54.5

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28 Declan and Callum have 85 points between them. Declan has 11 more than Callum. How many does Declan have?

- [ ] A) 49
- [ ] B) 11
- [ ] C) 37
- [ ] D) 42.5
- [ ] E) 48

---

29 The sum of 4 consecutive numbers is 114. What is the largest of the 4 numbers?

- [ ] A) 27
- [ ] B) 30
- [ ] C) 28.5
- [ ] D) 31
- [ ] E) 32.5

---

30 Ben and Ffion have 54 points between them. Ben has 34 more than Ffion. How many does Ffion have?

- [ ] A) 10
- [ ] B) 22
- [ ] C) 27
- [ ] D) 44
- [ ] E) 88

---

31 The sum of 4 consecutive numbers is 158. What is the largest of the 4 numbers?

- [ ] A) 43.5
- [ ] B) 39.5
- [ ] C) 42
- [ ] D) 41
- [ ] E) 38

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32 Megan and Noah have 82 stickers between them. Megan has 4 more than Noah. How many does Noah have?

- [ ] A) 39
- [ ] B) 86
- [ ] C) 41
- [ ] D) 21.5
- [ ] E) 43

---

33 Isla and Niamh have 33 points between them. Isla has 25 more than Niamh. How many does Niamh have?

- [ ] A) 14.5
- [ ] B) 4
- [ ] C) 29
- [ ] D) 16.5
- [ ] E) 3

---

34 The sum of 3 consecutive odd numbers is 39. What is the smallest of the 3 numbers?

- [ ] A) 11
- [ ] B) 13
- [ ] C) 19.5
- [ ] D) 12
- [ ] E) 15

---

35 The sum of 3 consecutive numbers is 162. What is the smallest of the 3 numbers?

- [ ] A) 54
- [ ] B) 57
- [ ] C) 55
- [ ] D) 81
- [ ] E) 53

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36 Harry and Noah have 63 stickers between them. Harry has 39 more than Noah. How many does Noah have?

- [ ] A) 102
- [ ] B) 31.5
- [ ] C) 12
- [ ] D) 51
- [ ] E) 13

---

37 The sum of 3 consecutive numbers is 159. What is the smallest of the 3 numbers?

- [ ] A) 52
- [ ] B) 54
- [ ] C) 79.5
- [ ] D) 53
- [ ] E) 56

---

38 The sum of 5 consecutive numbers is 170. What is the smallest of the 5 numbers?

- [ ] A) 34
- [ ] B) 32
- [ ] C) 33
- [ ] D) 36
- [ ] E) 39

---

39 Ethan and Dylan have 27 marbles between them. Ethan has 7 more than Dylan. How many does Ethan have?

- [ ] A) 8.5
- [ ] B) 13.5
- [ ] C) 17
- [ ] D) 10
- [ ] E) 20

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40 The sum of 4 consecutive numbers is 142. What is the largest of the 4 numbers?

- ☐ A) 35.5
- ☐ B) 38
- ☐ C) 34
- ☐ D) 37
- ☐ E) 39.5

---

41 Amara and Grace have £80 between them. Amara has £22 more than Grace. How much money does Grace have, in pounds?

- ☐ A) 102
- ☐ B) 28
- ☐ C) 51
- ☐ D) 29
- ☐ E) 40

---

42 The sum of 4 consecutive numbers is 154. What is the largest of the 4 numbers?

- ☐ A) 42.5
- ☐ B) 41
- ☐ C) 37
- ☐ D) 38.5
- ☐ E) 40

---

43 A code is made from one letter (A, B or C) followed by one digit (1, 2, 3 or 4). How many different codes are possible, and how many of these codes end in an even digit?

(4)

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44 Tom and Isla have £103 between them. Tom has £5 more than Isla. How much money does Isla have, in pounds?

- [ ] A) 49
- [ ] B) 51.5
- [ ] C) 50
- [ ] D) 27
- [ ] E) 54

---

45 Arjun and Noah have 67 stickers between them. Arjun has 21 more than Noah. How many does Noah have?

- [ ] A) 22
- [ ] B) 33.5
- [ ] C) 23
- [ ] D) 88
- [ ] E) 44

---

46 The sum of 4 consecutive numbers is 246. What is the smallest of the 4 numbers?

- [ ] A) 63
- [ ] B) 61.5
- [ ] C) 59
- [ ] D) 61
- [ ] E) 60

---

47 Megan and Isla have 74 points between them. Megan has 40 more than Isla. How many does Megan have?

- [ ] A) 57
- [ ] B) 17
- [ ] C) 56
- [ ] D) 37
- [ ] E) 28.5

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48 The sum of 5 consecutive numbers is 250. What is the smallest of the 5 numbers?

- [ ] A) 52
- [ ] B) 48
- [ ] C) 49
- [ ] D) 47
- [ ] E) 50

---

49 Isla and Priya have £53 between them. Isla has £29 more than Priya. How much money does Priya have, in pounds?

- [ ] A) 29
- [ ] B) 26.5
- [ ] C) 41
- [ ] D) 12
- [ ] E) 11

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50 The sum of 5 consecutive numbers is 295. What is the smallest of the 5 numbers?

- ☐ A) 56
- ☐ B) 61
- ☐ C) 57
- ☐ D) 64
- ☐ E) 59

---

51 Five friends - Arun, Bea, Cody, Dana and Evan - each collected a different number of football stickers over one week: 3, 5, 7, 9 and 11 (one each, no ties).

1. Cody collected more stickers than Arun but fewer than Dana.
2. The difference between Bea's total and Evan's total is 8.
3. Evan collected the fewest stickers.
4. Dana did not collect the most.
5. Arun collected 5 stickers.

Work out how many stickers each friend collected, and state who collected the most.

(5)

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Mark scheme · 2.57-4 Number Puzzles and Logic Set D: 1-hour Pack

Question 1

correct option C (36) cao **B1**

Answer: C) 36

Question 2

correct option A (33) cao **B1**

Answer: A) 33

Question 3

correct option B (6) cao **B1**

Answer: B) 6

Question 4

correct option D (35) cao **B1**

Answer: D) 35

Question 5

correct option C (65) cao **B1**

Answer: C) 65

Question 6

correct option E (29) cao **B1**

Answer: E) 29

Question 7

Freddie - pepperoni, red T-shirt cao **B1**

Oliver - green T-shirt, mushroom cao (deduced by elimination) **B1**

Grace - blue T-shirt cao (since Grace does not have red, and Oliver has green, red must belong to Freddie, leaving blue for Grace) **B1**

Grace - cheese cao (since the blue T-shirt wearer has cheese) **B1**

Answer: Freddie - pepperoni, red T-shirt; Grace - cheese, blue T-shirt; Oliver - mushroom, green T-shirt

Question 8

correct option D (4) cao **B1**

Answer: D) 4

Question 9

correct option D (37) cao **B1**

Answer: D) 37

Question 10

correct option A (26) cao **B1**

Answer: A) 26

Question 11

correct option C (38) cao **B1**

Answer: C) 38

Question 12

correct option E (32) cao **B1**

Answer: E) 32

Question 13

correct option E (35) cao **B1**

Answer: E) 35

Question 14

correct option B (35) cao **B1**

Answer: B) 35

Question 15

correct option A (51) cao **B1**

Answer: A) 51

Question 16

sets up Isla = x, Josh = 2x, Kofi = 2x + 4 **M1**

forms the equation x + 2x + (2x + 4) = 39, i.e. 5x + 4 = 39 oe **M1**

solves to x = 7 oe **M1**

Isla = 7, Josh = 14, Kofi = 18 cao **A1**

Answer: Isla = 7, Josh = 14, Kofi = 18

Question 17

correct option C (19) cao **B1**

Answer: C) 19

Question 18

correct option D (7) cao **B1**

Answer: D) 7

Question 19

correct option B (36) cao **B1**

Answer: B) 36

Question 20

correct option C (40) cao **B1**

Answer: C) 40

Question 21

correct option A (46) cao **B1**

Answer: A) 46

Question 22

correct option D (33) cao **B1**

Answer: D) 33

Question 23

correct option C (15) cao **B1**

Answer: C) 15

Question 24

correct option D (27) cao **B1**

Answer: D) 27

Question 25

correct option A (11) cao **B1**

Answer: A) 11

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Question 26

correct option E (53) cao **B1**

Answer: E) 53

Question 27

correct option B (53) cao **B1**

Answer: B) 53

Question 28

correct option E (48) cao **B1**

Answer: E) 48

Question 29

correct option B (30) cao **B1**

Answer: B) 30

Question 30

correct option A (10) cao **B1**

Answer: A) 10

Question 31

correct option D (41) cao **B1**

Answer: D) 41

Question 32

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

Answer: A) 39

Question 33

correct option B (4) cao **B1**

Answer: B) 4

Question 34

correct option A (11) cao **B1**

Answer: A) 11

Question 35

correct option E (53) cao **B1**

Answer: E) 53

Question 36

correct option C (12) cao **B1**

Answer: C) 12

Question 37

correct option A (52) cao **B1**

Answer: A) 52

Question 38

correct option B (32) cao **B1**

Answer: B) 32

Question 39

correct option C (17) cao **B1**

Answer: C) 17

Question 40

correct option D (37) cao **B1**

Answer: D) 37

Question 41

correct option D (29) cao **B1**

Answer: D) 29

Question 42

correct option E (40) cao **B1**

Answer: E) 40

Question 43

total codes = 3 x 4 oe **M1**

12 cao **A1**

even digits available are 2 and 4, so even-ending codes = 3 x 2 oe **M1**

6 cao **A1**

Answer: 12 different codes in total; 6 of these end in an even digit

Question 44

correct option A (49) cao **B1**

Answer: A) 49

Question 45

correct option C (23) cao **B1**

Answer: C) 23

Question 46

correct option E (60) cao **B1**

Answer: E) 60

Question 47

correct option A (57) cao **B1**

Answer: A) 57

Question 48

correct option B (48) cao **B1**

Answer: B) 48

Question 49

correct option D (12) cao **B1**

Answer: D) 12

Question 50

correct option C (57) cao **B1**

Answer: C) 57

Question 51

Arun = 5 cao (given directly) **B1**

Evan = 3 cao (the fewest of all five values) **B1**

Bea = Evan + 8 = 11 cao (rejecting the negative solution Evan - 8) **M1**

Cody = 7 and Dana = 9, using Cody > Arun (5) and Cody < Dana on the remaining values {7,9} **M1**

fully correct: Arun 5, Bea 11, Cody 7, Dana 9, Evan 3, and Bea collected the most cao **A1**

Answer: Arun = 5, Bea = 11, Cody = 7, Dana = 9, Evan = 3 stickers; Bea collected the most

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