2.57-4 Number Puzzles and Logic Set D: 30-minute Pack

GL ASSESSMENT GL · Calculators not allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 The sum of 3 consecutive numbers is 114. What is the smallest of the 3 numbers?

- ☐ A) 37
- ☐ B) 36
- ☐ C) 41
- ☐ D) 38
- ☐ E) 39

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2 The sum of 3 consecutive even numbers is 60. What is the smallest of the 3 numbers?

- ☐ A) 19
- ☐ B) 22
- ☐ C) 30
- ☐ D) 18
- ☐ E) 20

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3 Ben and Fatima have 48 marbles between them. Ben has 24 more than Fatima. How many does Fatima have?

- ☐ A) 18
- ☐ B) 36
- ☐ C) 12
- ☐ D) 24
- ☐ E) 11

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4 The sum of 5 consecutive numbers is 50. What is the largest of the 5 numbers?

- [ ] A) 12.5
- [ ] B) 15
- [ ] C) 8
- [ ] D) 10
- [ ] E) 12

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

- [ ] A) 10
- [ ] B) 15.5
- [ ] C) 13
- [ ] D) 11.5
- [ ] E) 9

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6 Lily and Maya have £70 between them. Lily has £12 more than Maya. How much money does Maya have, in pounds?

- [ ] A) 30
- [ ] B) 41
- [ ] C) 35
- [ ] D) 29
- [ ] E) 12

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7 The sum of 5 consecutive odd numbers is 205. What is the smallest of the 5 numbers?

- [ ] A) 46
- [ ] B) 51.25
- [ ] C) 37
- [ ] D) 41
- [ ] E) 45

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8 How many three-digit numbers can be made using the digits 1, 3, 6 and 8, if each digit can be used only once per number and the number must be even?

(3)

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9 Priya and Ethan have 56 marbles between them. Priya has 48 more than Ethan. How many does Priya have?

- ☐ A) 4
- ☐ B) 8
- ☐ C) 26
- ☐ D) 28
- ☐ E) 52

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10 The sum of 5 consecutive numbers is 270. What is the smallest of the 5 numbers?

- ☐ A) 56
- ☐ B) 52
- ☐ C) 59
- ☐ D) 67.5
- ☐ E) 54

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11 Chloe and Kofi have 41 stickers between them. Chloe has 17 more than Kofi. How many does Kofi have?

- ☐ A) 20.5
- ☐ B) 11
- ☐ C) 29
- ☐ D) 12
- ☐ E) 58

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12 Niamh and Dylan have 47 points between them. Niamh has 21 more than Dylan. How many does Niamh have?

- ☐ A) 35
- ☐ B) 13
- ☐ C) 34
- ☐ D) 21
- ☐ E) 23.5

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13 The sum of 3 consecutive even numbers is 102. What is the largest of the 3 numbers?

- ☐ A) 34
- ☐ B) 38
- ☐ C) 37
- ☐ D) 32
- ☐ E) 36

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14 Declan and Zainab have £37 between them. Declan has £11 more than Zainab. How much money does Declan have, in pounds?

- ☐ A) 13
- ☐ B) 24
- ☐ C) 23
- ☐ D) 25
- ☐ E) 18.5

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

- ☐ A) 4.5
- ☐ B) 3
- ☐ C) 6
- ☐ D) 5
- ☐ E) 7

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16 Lily and Leo have 42 points between them. Lily has 8 more than Leo. How many does Lily have?

- ☐ A) 21
- ☐ B) 8
- ☐ C) 17
- ☐ D) 12.5
- ☐ E) 25

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17 The sum of 4 consecutive even numbers is 140. What is the largest of the 4 numbers?

- ☐ A) 39
- ☐ B) 35
- ☐ C) 40
- ☐ D) 38
- ☐ E) 32

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18 The sum of 4 consecutive odd numbers is 224. What is the largest of the 4 numbers?

- ☐ A) 58
- ☐ B) 59
- ☐ C) 60
- ☐ D) 53
- ☐ E) 56

---

19 Niamh and Tariq have 63 points between them. Niamh has 21 more than Tariq. How many does Tariq have?

- ☐ A) 31.5
- ☐ B) 42
- ☐ C) 22
- ☐ D) 84
- ☐ E) 21

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20 A fruit drink is made by mixing juice and water in the ratio 5:9. Elena has 450 ml of juice and wants to use all of it. How much water must she add, and what is the total volume of the drink she makes?

(4)

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21 Exactly 50p is to be made using only 20p, 10p and 5p coins (any number of each coin, including zero, but at least one coin used in total). Explain why no more than 2 twenty-pence coins can be used, then find the total number of different ways to make exactly 50p.

(5)

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22 Ravi has 5 twenty-pence coins and 2 fifty-pence coins in his money box. How much money does he have in total? Give your answer in pounds.

(2)

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Mark scheme · 2.57-4 Number Puzzles and Logic Set D: 30-minute Pack

Question 1

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

Answer: A) 37

Question 2

correct option D (18) cao **B1**

Answer: D) 18

Question 3

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

Answer: C) 12

Question 4

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

Answer: E) 12

Question 5

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

Answer: A) 10

Question 6

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

Answer: D) 29

Question 7

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

Answer: C) 37

Question 8

identifies that the last digit must be 6 or 8 for the number to be even **M1**

correctly counts 6 arrangements for each choice of last digit (3 x 2 for the remaining two positions) oe **M1**

12 cao **A1**

Answer: 12

Question 9

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

Answer: E) 52

Question 10

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

Answer: B) 52

Question 11

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

Answer: D) 12

Question 12

correct option C (34) cao **B1**

Answer: C) 34

Question 13

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

Answer: E) 36

Question 14

correct option B (24) cao **B1**

Answer: B) 24

Question 15

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

Answer: C) 6

Question 16

correct option E (25) cao **B1**

Answer: E) 25

Question 17

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

Answer: D) 38

Question 18

correct option B (59) cao **B1**

Answer: B) 59

Question 19

correct option E (21) cao **B1**

Answer: E) 21

Question 20

1 part = 450 / 5 = 90 ml oe **M1**

water = 9 x 90 = 810 ml cao **A1**

total number of parts = 5 + 9 = 14 oe **M1**

total volume = 14 x 90 = 1260 ml cao **A1**

Answer: Water = 810 ml; total volume = 1260 ml (1.26 litres)

Question 21

3 x 20p = 60p, which is more than 50p, so at most 2 twenty-pence coins can be used **B1**

with 0 twenty-pence coins, the remaining 50p from 10p/5p coins can be made in 6 ways oe **M1**

with 1 twenty-pence coin, the remaining 30p from 10p/5p coins can be made in 4 ways oe **M1**

with 2 twenty-pence coins, the remaining 10p from 10p/5p coins can be made in 2 ways oe **M1**

12 cao **A1**

Answer: At most 2 twenty-pence coins can be used (since 3 x 20p = 60p exceeds 50p); there are 12 different ways in total to make exactly 50p

Question 22

5 x 20 + 2 x 50 = 100 + 100 = 200 (pence) oe **M1**

£2.00 cao **A1**

Answer: £2.00

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