2.90 Age and Difference Problems: Test Pack

GL ASSESSMENT GL-11PLUS-MATHS · Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Yusuf is 12 years older than his sister. His sister is 9 years old. What is Yusuf's age now?

- ☐ A) 3
- ☐ B) 12
- ☐ C) 18
- ☐ D) 21
- ☐ E) 9

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2 Kwame is 8 years older than Erin. Erin is 14 years old. How old is Kwame now?

(1)

---

3 Ten years ago a mother was 5 times as old as her daughter was then. The sum of their ages now is 50. Find their current ages.

(2)

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4 Leo is 5 times as old as Niamh. Their ages add up to 48. How old is Niamh?

- ☐ A) 43
- ☐ B) 8
- ☐ C) 9.6
- ☐ D) 40
- ☐ E) 12

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5 Lily is 13 years old. Lily's grandmother is 4 times as old as Lily. How old will Lily's grandmother be when Lily is 26?

- [ ] A) 39
- [ ] B) 104
- [ ] C) 52
- [ ] D) 78
- [ ] E) 65

---

6 Lily is 2 times as old as Mei. Their ages add up to 24. How old is Mei?

- [ ] A) 16
- [ ] B) 9
- [ ] C) 8
- [ ] D) 22
- [ ] E) 12

---

7 Mei is 10 years old and Mei's brother is 13. How old will the brother be when Mei is 22?

- [ ] A) 37
- [ ] B) 22
- [ ] C) 19
- [ ] D) 35
- [ ] E) 25

---

8 Declan is 6 years old. Declan's mother is 3 times as old as Declan. How old will Declan's mother be when Declan is 9?

- [ ] A) 21
- [ ] B) 27
- [ ] C) 18
- [ ] D) 20
- [ ] E) 15

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9 Ethan is 5 times as old as Niamh. Their ages add up to 72. How old is Niamh?

- [ ] A) 60
- [ ] B) 12
- [ ] C) 67
- [ ] D) 14.4
- [ ] E) 11

---

10 Ethan is 3 times as old as Maya. Their ages add up to 60. How old is Maya?

- [ ] A) 15
- [ ] B) 45
- [ ] C) 14
- [ ] D) 20
- [ ] E) 16

---

11 Tom is 11 years old. Tom's grandmother is 2 times as old as Tom. How old will Tom's grandmother be when Tom is 22?

- [ ] A) 32
- [ ] B) 22
- [ ] C) 44
- [ ] D) 34
- [ ] E) 33

---

12 Ffion is 3 times as old as Chloe. Their ages add up to 56. How old is Chloe?

- [ ] A) 13
- [ ] B) 42
- [ ] C) 28
- [ ] D) 14
- [ ] E) 53

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13 Grace is 6 years old. Grace's mother is 4 times as old as Grace. How old will Grace's mother be when Grace is 20?

- [ ] A) 74
- [ ] B) 24
- [ ] C) 38
- [ ] D) 37
- [ ] E) 80

---

14 Mei is 5 times as old as Grace. Their ages add up to 60. How old is Grace?

- [ ] A) 11
- [ ] B) 12
- [ ] C) 55
- [ ] D) 50
- [ ] E) 10

---

15 Isla is 3 times as old as Imogen. Their ages add up to 24. How old is Imogen?

- [ ] A) 18
- [ ] B) 5
- [ ] C) 12
- [ ] D) 8
- [ ] E) 6

---

16 Oliver is 9 years old. Oliver's mother is 3 times as old as Oliver. How old will Oliver's mother be when Oliver is 23?

- [ ] A) 27
- [ ] B) 69
- [ ] C) 42
- [ ] D) 40
- [ ] E) 41

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17 In 9 years time a mother will be three times as old as her daughter will be then. The mother is currently 39 years old. How old is the daughter now?

(2)

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18 Kofi is 6 years old. Kofi's grandmother is 2 times as old as Kofi. How old will Kofi's grandmother be when Kofi is 11?

- ☐ A) 22
- ☐ B) 18
- ☐ C) 16
- ☐ D) 12
- ☐ E) 17

---

19 Kofi is 6 years old. Kofi's father is 4 times as old as Kofi. How old will Kofi's father be when Kofi is 9?

- ☐ A) 33
- ☐ B) 36
- ☐ C) 28
- ☐ D) 24
- ☐ E) 27

---

20 Three people have ages in the ratio 5: 3: 2 and their total age is 80. Work out each person's age.

(3)

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21 Aisha is 8 years old and Aisha's sister is 14. How old will the sister be when Aisha is 16?

- ☐ A) 21
- ☐ B) 10
- ☐ C) 22
- ☐ D) 23
- ☐ E) 30

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22 Oliver is 6 years old and Oliver's brother is 10. How old will the brother be when Oliver is 32?

- [ ] A) 62
- [ ] B) 28
- [ ] C) 42
- [ ] D) 37
- [ ] E) 36

---

23 Megan is 7 years old. Megan's father is 3 times as old as Megan. How old will Megan's father be when Megan is 12?

- [ ] A) 33
- [ ] B) 29
- [ ] C) 26
- [ ] D) 36
- [ ] E) 21

---

24 Tom is 14 years old. Tom's mother is 3 times as old as Tom. How old will Tom's mother be when Tom is 28?

- [ ] A) 55
- [ ] B) 42
- [ ] C) 56
- [ ] D) 84
- [ ] E) 57

---

25 Tariq is 10 years old and Tariq's brother is 14. How old will the brother be when Tariq is 16?

- [ ] A) 30
- [ ] B) 26
- [ ] C) 12
- [ ] D) 20
- [ ] E) 21

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26 Zainab is 7 years old. Zainab's grandmother is 3 times as old as Zainab. How old will Zainab's grandmother be when Zainab is 19?

- [ ] A) 57
- [ ] B) 33
- [ ] C) 26
- [ ] D) 21
- [ ] E) 34

---

27 Megan is 7 years old. Megan's uncle is 4 times as old as Megan. How old will Megan's uncle be when Megan is 21?

- [ ] A) 84
- [ ] B) 42
- [ ] C) 77
- [ ] D) 49
- [ ] E) 28

---

28 Maya is 11 years old. Maya's grandmother is 3 times as old as Maya. How old will Maya's grandmother be when Maya is 17?

- [ ] A) 51
- [ ] B) 50
- [ ] C) 39
- [ ] D) 40
- [ ] E) 33

---

29 Tom is 12 years old and Tom's sister is 21. How old will the sister be when Tom is 18?

- [ ] A) 9
- [ ] B) 18
- [ ] C) 27
- [ ] D) 33
- [ ] E) 39

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30 Yusuf is 7 years old. Yusuf's grandmother is 2 times as old as Yusuf. How old will Yusuf's grandmother be when Yusuf is 10?

- [ ] A) 24
- [ ] B) 17
- [ ] C) 20
- [ ] D) 18
- [ ] E) 14

---

31 Anya is 12 years old. Anya's grandmother is 3 times as old as Anya. How old will Anya's grandmother be when Anya is 27?

- [ ] A) 81
- [ ] B) 39
- [ ] C) 51
- [ ] D) 36
- [ ] E) 50

---

32 Tariq is 5 years old and Tariq's cousin is 10. How old will the cousin be when Tariq is 20?

- [ ] A) 30
- [ ] B) 25
- [ ] C) 15
- [ ] D) 24
- [ ] E) 20

---

33 Rhys is 11 years old and Rhys's cousin is 13. How old will the cousin be when Rhys is 34?

- [ ] A) 47
- [ ] B) 35
- [ ] C) 34
- [ ] D) 36
- [ ] E) 32

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34 Kwame is 10 years old and Kwame's brother is 14. How old will the brother be when Kwame is 38?

- [ ] A) 38
- [ ] B) 70
- [ ] C) 52
- [ ] D) 34
- [ ] E) 42

---

35 Sana is 11 years old. Sana's grandmother is 4 times as old as Sana. How old will Sana's grandmother be when Sana is 25?

- [ ] A) 36
- [ ] B) 44
- [ ] C) 57
- [ ] D) 100
- [ ] E) 58

---

36 Declan is 7 years old and Declan's brother is 14. How old will the brother be when Declan is 25?

- [ ] A) 39
- [ ] B) 32
- [ ] C) 25
- [ ] D) 18
- [ ] E) 33

---

37 Arjun is 7 years old. Arjun's father is 4 times as old as Arjun. How old will Arjun's father be when Arjun is 13?

- [ ] A) 35
- [ ] B) 28
- [ ] C) 45
- [ ] D) 52
- [ ] E) 34

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38 Ewan is 14 years old. Ewan's grandmother is 4 times as old as Ewan. How old will Ewan's grandmother be when Ewan is 21?

- [ ] A) 56
- [ ] B) 35
- [ ] C) 70
- [ ] D) 84
- [ ] E) 63

---

39 Megan is 10 years old. Megan's mother is 3 times as old as Megan. How old will Megan's mother be when Megan is 14?

- [ ] A) 30
- [ ] B) 34
- [ ] C) 44
- [ ] D) 32
- [ ] E) 42

---

40 Amelia is twice as old as her brother now. In 3 years time the sum of their ages will be 51. Find their current ages.

(2)

---

41 Zainab is 8 years old and Zainab's sister is 17. How old will the sister be when Zainab is 20?

- [ ] A) 29
- [ ] B) 11
- [ ] C) 30
- [ ] D) 37
- [ ] E) 28

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42 Zainab is 10 years old. Zainab's father is 2 times as old as Zainab. How old will Zainab's father be when Zainab is 20?

- [ ] A) 20
- [ ] B) 29
- [ ] C) 31
- [ ] D) 40
- [ ] E) 30

---

43 Noah is 9 years old and Noah's brother is 13. How old will the brother be when Noah is 25?

- [ ] A) 38
- [ ] B) 21
- [ ] C) 30
- [ ] D) 29
- [ ] E) 25

---

44 Noah is 14 years old. Noah's mother is 3 times as old as Noah. How old will Noah's mother be when Noah is 21?

- [ ] A) 42
- [ ] B) 63
- [ ] C) 48
- [ ] D) 49
- [ ] E) 50

---

45 Sana is 13 years old. Sana's father is 3 times as old as Sana. How old will Sana's father be when Sana is 27?

- [ ] A) 66
- [ ] B) 81
- [ ] C) 53
- [ ] D) 39
- [ ] E) 68

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46 The total of three siblings' ages is 38. The oldest is twice as old as the middle sibling. The youngest is 2 years younger than the middle sibling. Find the three ages now.

(2)

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47 Zainab is 9 years old. Zainab's mother is 4 times as old as Zainab. How old will Zainab's mother be when Zainab is 20?

- ☐ A) 47
- ☐ B) 29
- ☐ C) 80
- ☐ D) 36
- ☐ E) 71

---

48 Sana is 13 years old and Sana's sister is 15. How old will the sister be when Sana is 35?

- ☐ A) 59
- ☐ B) 50
- ☐ C) 37
- ☐ D) 36
- ☐ E) 33

---

49 Isla is 13 years old. Isla's uncle is 4 times as old as Isla. How old will Isla's uncle be when Isla is 18?

- ☐ A) 56
- ☐ B) 58
- ☐ C) 72
- ☐ D) 52
- ☐ E) 57

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50 Oliver is 11 years old. Oliver's uncle is 2 times as old as Oliver. How old will Oliver's uncle be when Oliver is 21?

- ☐ A) 31
- ☐ B) 22
- ☐ C) 32
- ☐ D) 42
- ☐ E) 43

---

51 The sum of the ages of four friends is 71. Anne is 2 years older than Ben. Cara is 3 years younger than Anne. Dan is twice as old as Ben. Find each person's age now.

(3)

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52 Tom is 7 years old and Tom's brother is 10. How old will the brother be when Tom is 33?

- ☐ A) 35
- ☐ B) 36
- ☐ C) 30
- ☐ D) 33
- ☐ E) 43

---

53 Declan is 12 years old. Declan's father is 3 times as old as Declan. How old will Declan's father be when Declan is 24?

- ☐ A) 72
- ☐ B) 60
- ☐ C) 36
- ☐ D) 49
- ☐ E) 48

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Mark scheme · 2.90 Age and Difference Problems: Test Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

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

Answer: D) 21 years old (9 + 12 = 21).

Question 2

22 cao **B1**

Answer: 22 years old (14 + 8 = 22).

Question 3

Let daughter = d, mother = m; use m - 10 = 5(d - 10) and m + d = 50 to form equations seen **M1**

daughter 15 and mother 35 cao **A1**

Answer: Daughter 15, mother 35 (m = 5d - 40, substitute m + d = 50 gives d = 15).

Question 4

correct option B (8) cao **B1**

Answer: B) 8

Question 5

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

Answer: E) 65

Question 6

correct option C (8) cao **B1**

Answer: C) 8

Question 7

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

Answer: E) 25

Question 8

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

Answer: A) 21

Question 9

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

Answer: B) 12

Question 10

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

Answer: A) 15

Question 11

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

Answer: E) 33

Question 12

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

Answer: D) 14

Question 13

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

Answer: C) 38

Question 14

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

Answer: E) 10

Question 15

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

Answer: E) 6

Question 16

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

Answer: E) 41

Question 17

Let daughter = d; set up 39 + 9 = 3(d + 9) seen **M1**

daughter 7 cao **A1**

Answer: 7 years old (48 = 3(d + 9) => d + 9 = 16 => d = 7).

Question 18

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

Answer: E) 17

Question 19

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

Answer: E) 27

Question 20

Recognise total ratio parts 5 + 3 + 2 = 10 and form 10k = 80 **M1**

Find unit k = 8 and multiply ratio parts **M1**

ages 40, 24, 16 cao **A1**

Answer: 40, 24, 16 years (k = 8 so 5k = 40, 3k = 24, 2k = 16).

Question 21

correct option C (22) cao **B1**

Answer: C) 22

Question 22

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

Answer: E) 36

Question 23

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

Answer: C) 26

Question 24

correct option C (56) cao **B1**

Answer: C) 56

Question 25

correct option D (20) cao **B1**

Answer: D) 20

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Question 26

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

Answer: B) 33

Question 27

correct option B (42) cao **B1**

Answer: B) 42

Question 28

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

Answer: C) 39

Question 29

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

Answer: C) 27

Question 30

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

Answer: B) 17

Question 31

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

Answer: C) 51

Question 32

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

Answer: B) 25

Question 33

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

Answer: D) 36

Question 34

correct option E (42) cao **B1**

Answer: E) 42

Question 35

correct option E (58) cao **B1**

Answer: E) 58

Question 36

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

Answer: B) 32

Question 37

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

Answer: E) 34

Question 38

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

Answer: E) 63

Question 39

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

Answer: B) 34

Question 40

Equation set up: let brother = b, Amelia = 2b, then (2b+3) + (b+3) = 51 seen **M1**

brother 15 and Amelia 30 cao **A1**

Answer: Brother 15 years, Amelia 30 years (3b + 6 = 51 => b = 15).

Question 41

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

Answer: A) 29

Question 42

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

Answer: E) 30

Question 43

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

Answer: D) 29

Question 44

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

Answer: D) 49

Question 45

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

Answer: C) 53

Question 46

Let middle = m so ages 2m, m, m-2 and equation 2m + m + (m - 2) = 38 seen **M1**

ages 20, 10, 8 cao **A1**

Answer: Oldest 20, middle 10, youngest 8 (4m - 2 = 38 => m = 10).

Question 47

correct option A (47) cao **B1**

Answer: A) 47

Question 48

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

Answer: C) 37

Question 49

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

Answer: E) 57

Question 50

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

Answer: C) 32

Question 51

Let Ben = b and express others: Anne b+2, Cara b-1, Dan 2b and form sum 5b + 1 = 71 seen **M1**

Solve 5b + 1 = 71 to get b = 14 **M1**

Give ages Ben 14, Anne 16, Cara 13, Dan 28 cao **A1**

Answer: Ben 14, Anne 16, Cara 13, Dan 28 (5b + 1 = 71 => b = 14).

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Question 52

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

Answer: B) 36

Question 53

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

Answer: E) 48

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