



EP.M114 Age and Difference Problems

GL ASSESSMENT GL-11PLUS-MATHS · Calculators not allowed · about 55 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

(Total for Question 1 is 1 mark)

- 2** Priya is three times as old as her brother. The sum of their ages is 48. Work out Priya's age now.

(Total for Question 2 is 1 mark)

- 3** 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.

(Total for Question 3 is 2 marks)

- 4** Kwame is 8 years older than Erin. Erin is 14 years old. How old is Kwame now?

(Total for Question 4 is 1 mark)

- 5 A father is 4 times as old as his child now. In 6 years time the father will be 3 times as old as the child. Find their current ages.

(Total for Question 5 is 2 marks)

- 6 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.

(Total for Question 6 is 2 marks)

- 7 Sam is 5 times as old as Lara. Lara is 3 years old. How old is Sam?

- ☐ A) 8
- ☐ B) 15
- ☐ C) 20
- ☐ D) 18
- ☐ E) 5

(Total for Question 7 is 1 mark)

- 8 The difference between a parent and their child is 9 years. In 7 years time the parent will be twice as old as the child. Find their current ages.

(Total for Question 8 is 2 marks)

- 9 The sum of the ages of four friends is 71. Ben is the youngest. 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.

(Total for Question 9 is 3 marks)

- 10** 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.

(Total for Question 10 is 2 marks)

- 11** Tom is 4 years older than twice Sam's age. Tom is 22 years old. How old is Sam now?

- ☐ A) 9
- ☐ B) 11
- ☐ C) 8
- ☐ D) 10
- ☐ E) 7

(Total for Question 11 is 1 mark)

- 12** Two years ago the sum of a couple's ages was 80. Now the younger is 4 years younger than the older. Find their current ages.

(Total for Question 12 is 2 marks)

- 13** A grandmother is three times as old as her grandchild now. In 12 years time she will be twice as old as the grandchild. Find their current ages.

(Total for Question 13 is 3 marks)

- 14** Three siblings have consecutive even-numbered ages. The sum of their ages is 78. Work out the three ages.

(Total for Question 14 is 2 marks)

15 A father is 40 years old and he is 4 times as old as his son. How old is the son?

- ☐ A) 9
- ☐ B) 10
- ☐ C) 12
- ☐ D) 8
- ☐ E) 11

(Total for Question 15 is 1 mark)

16 The sum of A and B's ages is 31. Five years ago A was twice as old as B was then. Find A and B's current ages.

(Total for Question 16 is 3 marks)

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?

(Total for Question 17 is 2 marks)

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

(Total for Question 18 is 3 marks)

19 A is 7 years older than B now. In 4 years time the ages of A and B will be in the ratio 3: 2. Find their current ages.

(Total for Question 19 is 2 marks)

20 An aunt is 6 times as old as her nephew now. In 6 years time she will be 4 times as old as him then. Find their current ages.

(Total for Question 20 is 2 marks)

Mark scheme · EP.M114 Age and Difference Problems

Question 1

- **B1** correct option D (21) cao
- **Answer: D) 21 years old ($9 + 12 = 21$).**

Question 2

- **B1** 36 cao
- **Answer: 36 years old (let brother = x , Priya = $3x$, $4x = 48$ so $x = 12$ and Priya = 36).**

Question 3

- **M1** Equation set up: let brother = b , Amelia = $2b$, then $(2b+3) + (b+3) = 51$ seen
- **A1** brother 15 and Amelia 30 cao
- **Answer: Brother 15 years, Amelia 30 years ($3b + 6 = 51 \Rightarrow b = 15$).**

Question 4

- **B1** 22 cao
- **Answer: 22 years old ($14 + 8 = 22$).**

Question 5

- **M1** Let child = c , father = $4c$; equation $4c + 6 = 3(c + 6)$ seen
- **A1** child 12 and father 48 cao
- **Answer: Child 12 years, father 48 years ($4c + 6 = 3c + 18 \Rightarrow c = 12$).**

Question 6

- **M1** Let middle = m so ages $2m$, m , $m-2$ and equation $2m + m + (m - 2) = 38$ seen
- **A1** ages 20, 10, 8 cao
- **Answer: Oldest 20, middle 10, youngest 8 ($4m - 2 = 38 \Rightarrow m = 10$).**

Question 7

- **B1** correct option B (15) cao
- **Answer: B) 15 years old ($5 \times 3 = 15$).**

Question 8

- **M1** Let child = x , parent = $x + 9$; equation $x + 9 + 7 = 2(x + 7)$ seen
- **A1** child 2 and parent 11 cao
- **Answer: Child 2 years, parent 11 years ($x = 2$).**

Question 9

- **M1** 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 $b = 14$
- **A1** Give ages Ben 14, Anne 16, Cara 13, Dan 28 cao
- **Answer: Ben 14, Anne 16, Cara 13, Dan 28 ($5b + 1 = 71 \Rightarrow b = 14$).**

Question 10

- **M1** Let daughter = d , mother = m ; use $m - 10 = 5(d - 10)$ and $m + d = 50$ to form equations seen
- **A1** daughter 15 and mother 35 cao
- **Answer: Daughter 15, mother 35 ($m = 5d - 40$, substitute $m + d = 50$ gives $d = 15$).**

Question 11

- **B1** correct option A (9) cao
- **Answer: A) 9 years old ($2s + 4 = 22 \Rightarrow 2s = 18 \Rightarrow s = 9$).**

Question 12

- **M1** Let older = p and younger = $p - 4$; use $(p - 2) + (p - 4 - 2) = 80$ or $2p - 8 = 80$ seen
- **A1** current ages 44 and 40 cao
- **Answer: Older 44, younger 40 ($2p - 8 = 80 \Rightarrow p = 44$).**

Question 13

- **M1** Let grandchild = g and grandmother = $3g$; equation $3g + 12 = 2(g + 12)$ seen
- **M1** Rearrange to get $g = 12$
- **A1** grandchild 12 and grandmother 36 cao
- **Answer: Grandchild 12, grandmother 36 ($3g + 12 = 2g + 24 \Rightarrow g = 12$).**

Question 14

- **M1** Let smallest even = n then $n, n+2, n+4$ and equation $3n + 6 = 78$ seen
- **A1** ages 24, 26, 28 cao
- **Answer: 24, 26, 28 years ($3n + 6 = 78 \Rightarrow n = 24$).**

Question 15

- **B1** correct option B (10) cao
- **Answer: B) 10 years old ($40 \div 4 = 10$).**

Question 16

- **M1** Let $B = b$ and $A = a$; use $a + b = 31$ and $a - 5 = 2(b - 5)$ to form equations
- **M1** Substitute $a = 2b - 5$ into $a + b = 31$ and solve $3b = 36$
- **A1** $A = 19$ and $B = 12$ cao
- **Answer: A = 19 years, B = 12 years ($a = 2b - 5, 3b = 36 \Rightarrow b = 12$).**

Question 17

- **M1** Let daughter = d ; set up $39 + 9 = 3(d + 9)$ seen
- **A1** daughter 7 cao
- **Answer: 7 years old ($48 = 3(d + 9) \Rightarrow d + 9 = 16 \Rightarrow d = 7$).**

Question 18

- **M1** Recognise total ratio parts $5 + 3 + 2 = 10$ and form $10k = 80$
- **M1** Find unit $k = 8$ and multiply ratio parts
- **A1** ages 40, 24, 16 cao
- **Answer: 40, 24, 16 years ($k = 8$ so $5k = 40, 3k = 24, 2k = 16$).**

Question 19

- **M1** Let $B = b$ and $A = b + 7$; set up $(b + 7 + 4)/(b + 4) = 3/2$
- **A1** $A = 17$ and $B = 10$ cao
- **Answer: A 17, B 10 years ($2(b + 11) = 3(b + 4) \Rightarrow b = 10$).**

Question 20

- **M1** Let nephew = n and aunt = $6n$; equation $6n + 6 = 4(n + 6)$ seen
- **A1** nephew 9 and aunt 54 cao
- **Answer: Nephew 9, aunt 54 ($6n + 6 = 4n + 24 \Rightarrow 2n = 18 \Rightarrow n = 9$).**