Quantitative Aptitude

Problems on Age

Level-1

Q1 A is 7 years younger than B. If their ages are in the ratio of 7 : 9, what is A's age?
(A) 28.5 years (B) 27 years
(C) 25.6 years (D) 24.5 years
(E) None of these

Q2 A's age and B's age are currently in the ratio of 7 : 5. In three year's time, their ages will be in the ratio of 13 : 11. What is the current age of B ?
(A) 7 years (B) 2.5 years
(C) 4.5 years (D) 5 years
(E) None of these

Q3 **The ratio of the present ages of M and P is 11 : 8. After 12 years, the ratio of M and P will be 5 : 4. What will be the ratio of their ages after 22 years?**
(A) 54 : 47 (B) 44 : 57
(C) 55 : 46 (D) 46 : 55
(E) None of these

Q4 Six years ago, the ratio of the ages of Kunal and Sagar was 6 : 5. Four years hence, the ratio of their ages will be 11 : 10. What is Sagar's age at present?
(A) 10 (B) 25
(C) 16 (D) 20
(E) None of these

Q5 The ratio of Present Age of ram and shyam is 7:2 .After 10 years the ratio becomes 9:4 ,Then what is the present age of Ram ?
(A) 10 (B) 35
(C) 40 (D) 25
(E) 45

Q6 4 years ago the sum of the ages of Rohit and Mohit was 32 years and after 4 years the difference between their ages is 4 years. What is the present age of Rohit?
(A) 18 years (B) 20 years
(C) 22 years (D) 24 years
(E) 25 years

Q7 A is two years older than B who is twice as old as C. If the total of the ages of A, B and C be 27, then how old is B?
(A) 10 (B) 12
(C) 15 (D) 17
(E) None of these

Q8 A father told his son that when the son was born, the father's age was the same as the son's current age. If the father is currently 54 years old, how old was the son 9 years ago?
(A) 19 years (B) 20 years
(C) 18 years (D) 17 years
(E) 25 years

Q9 A got married 6 years ago and his current age is $\frac{6}{5}$ times his age at the time of his marriage. At the time of A's marriage, his sister was 9 years younger than him. What is A's sister's current age?
(A) 24 years (B) 23 years
(C) 21 years (D) 22 years
(E) 25 years

Q10 8 years ago, the ratio of Tina and Shilpa was 1:3. After 4 years, the ratio between them will be 2:3. Then, find what the ratio of their present ages is?
(A) 2 : 5 (B) 3 : 7
(C) 3 : 5 (D) 1 : 2
(E) None of these

Q11

A's father was 32 years of age when she was born while her mother was 28 years old when her brother three years younger to A was born. What is the difference between the ages of A's parents?

(A) 9 years (B) 6 years
(C) 7 years (D) 8 years
(E) 10 years

Q12 Present ages of Sameer and Anand are in the ratio of 5 : 4 respectively. Three years hence, the ratio of their ages will become 11 : 9 respectively. What is Anand's present age in years?

(A) 30 (B) 35
(C) 25 (D) 24
(E) 28

Q13 3 years ago, the ratio of age of A and B was 3:1. If the present age of B is $37\frac{1}{2}\%$ of the present age of A then what is the difference between their present ages (in years)?

(A) 25 (B) 30
(C) 35 (D) 40
(E) 45

Q14 The ratio of ages of Ramu and Dhamu 6 years ago was 4: 5 and after 6 years the ratio of their ages will become 8:9. Find the ratio of their present ages.

(A) 3: 4 (B) 5: 6
(C) 6: 7 (D) 4: 9
(E) 2: 1

Q15 The average of present age of Anjali ,Babita and Chandani is 31 years. If age of Anjali is two years less than that of Babita and age of Babita is eight years less than Chandani, then Find the present age of Anjali.

(A) 21 years (B) 20 years
(C) 25 years (D) 27 years
(E) 29 years

Q16 The ratio of age of Piyush and Pari is 1 : 4. The average age of the family of 5 including Piyush and Pari is 20 years. The sum of the ages of rest of the family excluding them is 60 years. Find the age of Pari.

(A) 28 years (B) 30 years
(C) 31 years (D) 32 years
(E) 40 years

Q17 10 years ago from now, ratio of ages of 'R' and 'L' was 3:5, respectively. If 'L' is 10 years elder to 'R', then what will be the age of 'L', 5 years hence from now?

(A) 25 years (B) 50 years
(C) 30 years (D) 35 years
(E) 40 years

Q18 Alina is three times more than her daughter Fina. After 12 years, she would be two and a half times of Fina's age. After further 12 years, how many times would she be of Fina's age:

(A) 2:3 (B) 3:7
(C) 5:2 (D) 1:2
(E) None of these

Q19 A man's age is four times the combined ages of his two daughters. In 15 years, his age will be three times the combined ages of his daughters. What is the total of current ages of the 2 daughters is?

(A) 72 years (B) 86 years
(C) 65 years (D) 75 years
(E) 60 years

Q20 A man said to his son, "I am currently five times the age you were when I was the same age as you are now." If the sum of their ages is 54 years, what are their current ages?

(A) 9 & 45 years
(B) 12 & 42 years
(C) 20 & 34 years
(D) 25 & 29 years
(E) 12 & 15 years

Level-2

Q1 A father said to his son, "I was as old as you are at the present at the time of your birth". If the father's age is 42 years now, the son's age five years back was

(A) 24 years (B) 16 years
(C) 21 years (D) 20 years
(E) 34 years

Q2 When Sunil will be as old as his father is at present, Sunil will be five times as old as his son is at present. Also, by then Sunil's son will be six years older than the age of Sunil at present. The sum of the ages of Sunil's father and Sunil is 85 years at present. What is the sum of the ages of Sunil's son and Sunil at present?

(A) 37 years (B) 38.5 years
(C) 39 years (D) 41 years
(E) 42 years

Q3 Ratio of present ages of P to Q is 5: 3, ratio of ages of Q to R after 6 years will be 4: 5, ratio of R to S before 4 years was 5: 8 and sum of ages of P and S is 66 years. Find the average age of all the four persons.

(A) 32 years (B) 27 years
(C) 30 years (D) 24 years
(E) 23 years

Q4 10 years hence, the age of Deepak will be 10 years more than the age of Ali. The ratio of the present age of Deepak to that of Ali is 7:6. What will be the ratio of age of Deepak and Ali after 12 years?

(A) 1:7 (B) 16:15
(C) 15:16 (D) 36:41
(E) 41:36

Q5 5 years ago, the ratio of age of Anil and Babu is 3: 2. Celin is 7 years younger than Anil. The present age of Celin is 2 times Dhanu's present age. Find the present age of Babu, if the age of Dhanu, after 6 years is 35 years.

(A) 50 (B) 55
(C) 45 (D) 42
(E) 48

Q6 Present ages of three persons Ravi, Giri, and Arvind are in increasing arithmetic progression with a common difference of 7. If ratio of Giri's age after 3 years to the Arvind's age before 9 years is 5: 4, then find the average of present age of all the three persons.

(A) 21 years (B) 22 years
(C) 23 years (D) 24 years
(E) 25 years

Q7 After 5 years, sum of age of Jitu and Tushar is 8 years less than the sum of age of Mahesh and Shital at that time and Tushar is 8 years younger than Mahesh. If the ratio of present age of Jitu and Mahesh is 4: 5 and present age of Shital is 40 years, then what is the present age of Tushar?

(A) 46 years (B) 54 years
(C) 44 years (D) 40 years
(E) 42 years

Q8 10 years ago, the Age of Shagun's grandfather is 5 times Shagun's age and 5 years from now, the age of Shagun's Grandfather will be 3 times the age of Shagun. Find the ratio and Shagun and her grandfather's age before 5 years.

(A) $1:3$ (B) $2:5$
(C) $1:4$ (D) $3:5$
(E) $1:5$

Q9 The age of Abhishek 10 years ago was 100% more than the age of Bunty 10 years ago. The age of Abhishek 10 years after will be 20 more than the age of Bunty 10 years after. Find the age of Abhishek 4 years after.

(A) 44 years (B) 48 years
(C) 54 years (D) 60 years
(E) 36 years

Q10 5 years ago from now, the ratio of the ages of P and Q was _____. Again 10 years hence, the ratio of their ages will be 6:7. Then, P is _____ years younger to Q.

I. 3:4, 5
II. 2:3, 5
III. 1:2, 10
(A) Only I
(B) Only I and II
(C) Only I and III
(D) Only II and III
(E) Only II

Q11 Average of present ages of A and B is 'x' years while A is 'x - 10' years older to B. If C is '2x - 23' years older to B and age of C after 7 years will be 28 years, then find the ratio of present ages of A to C.

(A) 4: 3 (B) 5: 4
(C) 3: 2 (D) 5: 3
(E) 1:2

Q12 5 years ago, the age of Tuman was 2.25 times the age of his nephew. 2 years hence, the age of Tuman becomes 2.6 times the age of his niece. If the nephew is 7 years elder to niece, find the present age of Tuman.

(A) 50 (B) 25
(C) 18 (D) 100
(E) 75

Q13 16 years ago, grand-daughter of Jaya was 12.5% of the age of Jaya and eight years hence, her grand-daughter's age will be 25% of her age, then what will be the ratio of Jaya's age to her grand-daughter's age after 6 years?

(A) 83: 20 (B) 84: 19
(C) 83: 21 (D) 88: 21
(E) None of these

Q14 8 years ago, age of P is 75% more than that of Q, while age of Q after 6 years is twice the age of P before 21 years. Present average age of P, Q, and R together is 30 years. Find the age of S after 6 years, if present age of S is 50% more than that of R?

(A) 52 years (B) 51 years
(C) 38 years (D) 48 years
(E) None of these

Q15 The age of Sonali is 25% more than the age of Mitra. If the ratio of the present age of Mitra to Sam is 4: 9 and after 12 years, the average of Sam and Sonali will be 40 years, then find the sum of the Ages of Sonali's four years hence and Sam six years ago.

(A) 54 years (B) 48 years
(C) 52 years (D) 46 years
(E) 50 years

Q16 **Directions: Study the following question carefully and choose the right answer given beside.**

Ajay is 2 years younger to Bhautik whose age is 12 years. When 10 years are subtracted from the present age of Shahrukh and then the result is divided by 6, the present age of his grandson Ajay is obtained. Then what is the ratio of ages of Ajay, Bhautik and Shahrukh?

(A) 7:2:23 (B) 6:5:35
(C) 5:6:23 (D) 5:6:35
(E) 7:2:35

Q17 A family has 5 members, Father, mother and their three children. The average age of family immediately after the birth of first, second and third child was 16, 15.75 and 14.2 years respectively. What is the age of elder child, if the present age of entire family is 15.2 years?

(A) 6 years (B) 7 years
(C) 8 years (D) 5 years
(E) 4 years

Q18 A family of 5 members had an average age of 25 years 8 years ago. Since then, two children have been born with an age difference of 4 years. Currently, the average age of the family remains the same. What is the age of the youngest child?

(A) 6 years (B) 3 years
(C) 2 years (D) 5 years
(E) 8 years

Q19 Sum of ages of two persons A and B is x^2 years while the difference between their ages is '72 - 12x' years (A is younger than B). Ratio of age of A before 2 years to his age after 10 years is 4: 7, find the average of age of A after 3 years and age of B before 7 years.
(A) (x + 10) years (B) (x + 8) years
(C) (x + 12) years (D) (x + 6) years
(E) None of these

Q20 5 years ago from now, Kumar's age was 3 times the age of Alakh. 4 years from now, he will be twice as old as Alakh. 10 years hence from now, ratio of ages of Kumar to Alakh will be same as the ratio of present ages of Tushar to Aanchal. If Tushar's present age is 28 years then find the present age of Aanchal.
(A) 18 years (B) 15 years
(C) 14 years (D) 16 years
(E) None of these

Level-3

Q1 **Directions: Study the following question and solve and pick the correct option.**
When Shanu was asked his age then he being good in arithmetic reasoning said that 5 years before he was one-twentieth of his fathers present age. 12 years afterwards he said he will get married and his wife's age will be three times his present age. After 2 years of marriage, he shall get a baby and the average age of the family will become 18.5 years. What will be Shanu's fathers age when he gets married?
(A) 42 (B) 45
(C) 29 (D) 34
(E) None of these

Q2 Directions : the following questions are accompanied by three statements. You have to determine which statement(s) is/are sufficient/necessary to answer the question and mark your answer accordingly ?
Find the present age of A ?

1. 5 yr ago, the ratio of age of B and A was 3:2.
2. After 7 yr, the ratio of age of B and A will be 21:16.
3. The difference between the age of B and A is 10 yr.

(A) Either 1 and 2 or 1 and 3 are sufficient
(B) Any two of the the three statement are sufficient
(C) All three statement are sufficient
(D) 1 and 3 are sufficient
(E) 1 and 2 are sufficient

Q3 Following question consists of a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and give answer:
What is the ratio of Sonu's age and Golu's age?
Statement I: Golu is 6 years older than Karan. Average age of Sonu and Karan is 15 years.
Statement II: The ratio of Sonu's age after three years and Karan's age before seven years is 23:5.
(A) Both I and II together are sufficient
(B) Only I alone is sufficient
(C) Only II alone is sufficient
(D) Both I and II alone are sufficient
(E) None of these

Q4 Present ages of A and B are in the ratio _____ respectively. Present age of B is _____ percent more than the present age of C. Present average age of A, B and C is 36 years if the present age of A is _____ years.
The values given in which of the following options will fill the blanks in the same order in which is it given to make the above statement true:
A. 3:7, 40%, 21
B. 5:12, 20%, 20
C. 3:5, 25%, 27
(A) Only B (B) Only B and C
(C) Only A and C (D) Only A and B
(E) None of these

Q5 Present average age of A, B and C is 58 years. Present average age of A and B is 67 years. If the present age of B is ____% more than the present age of C, then the present age of A is ____ years.
The values given in which of the following options will fill the blanks in the same order in which is it given to make the above statement true:
A. 75, 64
B. 65, 68
C. 60, 70
(A) All A, B and C (B) Only A
(C) Only B and C (D) Only B

(E) Only A and C

Q6 Ratio of present ages of Ram and Kamal is 5:7, respectively. Difference between the ages of Ram and Kamal is ____ years and the ratio of their ages after 10 years will be ____.
Which of the following options can be used to fill the blank in order to make the given statement true?
I. 4, 5:6
II. 8, 15:19
III. 2, 15:17
IV. 10, 7:10
(A) Only I and III
(B) Only II and IV
(C) Only I, II and III
(D) Only I, II and IV
(E) All I, II, III and IV

Q7 The average age of a group of 60 students is 15 years. If 3 students whose ages are 17 years, 24 years and _____ years is replaced by 3 new students whose ages are ____ years, 22 years and 31 years, then the new average age of the group increases by 0.5 years.
The values given in which of the following options will fill the blanks in the same order in which is it given to make the above statement true:
A. 27, 45
B. 44, 64
C. 19, 37
(A) Only A (B) Only C
(C) Only A and C (D) Only B and C
(E) All A, B and C

Q8 There are 4 persons A, B, C and D. The sum of the present ages of B and C is 80 years. _____years ago, the ratio of the ages of A and C was 1:2. The present age of D is 25 years more than that of A. The ratio of present ages of A and C is 5:9, respectively. _____years hence the ratio of the ages of B and D will be 3:4. The present age of D is 5 years more than that of C.
The values given in which of the following options will fill the blanks in the same order in which is it given to make the above statement true:
A. 10 years, 15 years
B. 5 years, 10 years
C. 10 years, 20 years
D. 5 years, 20 years
(A) Only A and C (B) Only B
(C) Only B and D (D) Only C
(E) Only A

Q9 Present age of P is Z years and the age of Q is (Y + 20)% more/less than that of R. Age of P after two years is sum of 40% of present age of R and one-third the present age of Q. Age of S is M years and Q is 6 years older than that of S. Find the value of Y, if S is 4 years younger than P.
(A) 40
(B) 20
(C) 25
(D) 5
(E) Cannot be determined

Q10 There are four members in a family A, B, C and D. Average present age of A and D is (Y + 8) years, while ratio of present age of C and B is 2:1
respectively. D is (Y + 4) years younger than C, while C is 4 years elder than P. Present average age of all members in family is (2Y + 1) years.
I. Age of B after Y years is same as same of A.
II. Ratio of present age of C and D is 2 : 1 respectively.
III. Age of B and D is same
(A) II only (B) I and III only
(C) I and II only (D) I, II, and III
(E) None of these

Answer Key

Level-1

Q1	(D)	Q11	(C)
Q2	(B)	Q12	(D)
Q3	(C)	Q13	(B)
Q4	(C)	Q14	(C)
Q5	(B)	Q15	(D)
Q6	(C)	Q16	(D)
Q7	(A)	Q17	(E)
Q8	(C)	Q18	(C)
Q9	(C)	Q19	(D)
Q10	(C)	Q20	(A)

Level-2

Q1	(B)	Q11	(A)
Q2	(D)	Q12	(A)
Q3	(B)	Q13	(A)
Q4	(E)	Q14	(B)
Q5	(C)	Q15	(A)
Q6	(B)	Q16	(D)
Q7	(E)	Q17	(C)
Q8	(C)	Q18	(B)
Q9	(C)	Q19	(A)
Q10	(A)	Q20	(D)

Level-3

Q1	(D)	Q6	(C)
Q2	(B)	Q7	(C)
Q3	(A)	Q8	(B)
Q4	(B)	Q9	(B)
Q5	(A)	Q10	(D)

Hints & Solutions

Level-1

Q1 Text Solution:

Let B's age be x years.

Then, A's age = (x – 7) years.

$\frac{x-7}{x} = \frac{7}{9}$

9x – 63 = 7x

2x = 63

x = 31.5

Hence, A's age = (x – 7) = 24.5 years

Q2 Text Solution:

Let the present ages of A and B be 7x and 5x years respectively.

Then, $\frac{7x+3}{5x+3} = \frac{13}{11}$

11 (7x+3) = 13(5x+3)

77x + 33 = 65x + 39

77x – 65x = 39 – 33

12x = 6

x = $\frac{1}{2}$

B's present age = 5x = $5 \times \frac{1}{2}$

= 2.5 years

Q3 Text Solution:

Let the ages of M and P be 11x and 8x respectively.

According to the question, after 12 years:

Ratio of M and P will be 5 : 4;

$\frac{(11x+12)}{(8x+12)} = \frac{5}{4}$

44x + 48 = 40x + 60

44x - 40x = 60 - 48

4x = 12

x = 3

Here, x = 3

∴ The present age of M = (11 × 3) = 33 years

∴ The present age of P = (8 x 3) = 24 years

So,

The ratio of M and P ages after 20 years is :

(33 + 22) : (24 + 22)

55 : 46

Hence, **"55 : 46"** is the correct answer.

Q4 Text Solution:

Let the ages of Kunal and Sagar 6 years ago be 6***x*** and 5***x*** years respectively.

$\frac{6x+6+4}{5x+6+4} = \frac{11}{10}$

10(6***x*** + 10) = 11(5***x*** + 10)

5***x*** = 10

x = 2.

Sagar's present age = (5***x*** + 6) = 16 years.

Q5 Text Solution:

Let the age of ram and shyam be 7x, 2x .

After 10 yrs ,the age will be 7x+10 , 2x+10

Given ratio of ages after 10 years = 9:4

$\frac{7x+10}{2x+10} = \frac{9}{4}$

Solving equ..

28x + 40 = 18x + 90

28x - 18x = 90 - 40

10x = 50

$x = 5$

So the present age of ram = 7×5 = 35 years

Q6 Text Solution:

Let the present age of Rohit and Mohit be x and y.

According to the questions,

x-4 + y-4 =32

x + y = 40.....I

The difference between their ages is always the same.

So,

x – y = 4.....II

Adding equation I and II.

2x = 44

x = 22 years.

Q7 Text Solution:

Let C's age be ***x*** years. Then, B's age = 2***x*** years.

A's age = (2***x*** + 2) years.

(2***x*** + 2) + 2***x*** + ***x*** = 27

5***x*** = 25

x = 5.

Hence, B's age = 2***x*** = 10 years.

Q8 Text Solution:

Let the son's present age be x years.

Then, (54 – x) = x

2x = 54

x = 27

Son's age 9 years back (27 – 9) = 18 years

∴ The answer is 18 years

Q9 Text Solution:

Let A's age at the time of his marriage = ***x*** years

Then from given data

=> ***x*** + 6 = $\frac{6}{5}$ ***x***

5x + 30 = 6x

x = 30

Since got married 6 years ago, his present age = 30

His sister is 9 years younger => 30 – 9 = 21 years.

Q10 Text Solution:

Consider that 8 years ago, Tina and Shilpa were x and 3x years old, respectively.

So, present age of Tina $= (x + 8)$

and present age of Shilpa $= (3x + 8)$

According to the given conditions,

$\frac{x+8+4}{3x+8+4} = \frac{2}{3}$

$=> \ 3x + 36 = 6x + 24$

$=> \ 3x = 12$

$=> \ x = 4$

Hence, the required ratio is $= \frac{4+8}{3\times4+8} = \frac{12}{20} = 3:5$

∴ The answer is 3:5.

Q11 Text Solution:

Mother's age when A's brother was born = 28 years.

Father's age when A's brother was born = (32 + 3) years = 35 years.

Required difference = (35 – 28) years = 7 years.

Q12 Text Solution:

Let the present ages of Sameer and Anand be 5***x*** years and 4***x*** years respectively.

$\frac{5x+3}{4x+3} = \frac{11}{9}$

9(5***x*** + 3) = 11(4***x*** + 3)

45***x*** + 27 = 44***x*** + 33

45***x*** - 44***x*** = 33 - 27

x = 6.

Anand's present age = 4***x*** = 24 years.

Q13 Text Solution:

The present age of B = $37\frac{1}{2}\%$ of the present age of A.

The present age of B = $\frac{3}{8}$of the present age of A.

The ratio of the present age of A and B = 8: 3

Let the present ages of A and B be 8k and 3k respectively,

$\frac{8k-3}{3k-3} = \frac{3}{1}$

$8k - 3 = 9k - 9$

$k = 6$

Required difference $= 8k - 3k = 5k = 5 \times 6 = 30$ years

Q14 Text Solution:

Let 6 years ago age of Ramu and Dhamu be 4k and 5k respectively.

$\frac{4k+12}{5k+12} = \frac{8}{9}$

$36k + 108 = 40k + 96$

$4k = 12$

$k = 3$

resent age of Ramu =4k + 6 =18

Present age of Dhamu =5k + 6 =21

Required ratio =18 : 21 = 6: 7

Q15 Text Solution:

Let the present ages of Anjali, Babita and Chandani are a, b and c years respectively.

$a + b + c$ = 31× 3 = 93 years ....(i)

$b - 2 = a$ .....(ii)

$b + 8 = c$ ..... (iii)

ATQ.

$b - 2 + b + 8 + b = 93$

$3b = 87$

$b = 29$

The present age of Anjali= 27 years

Q16 Text Solution:

Let the age of Piyush and Pari be x and 4x respectively.

According to the question –

$\frac{x + 4x + 60}{5} = 20$

$x = 8$

Therefore, the age of Pari $= 4x = 4 \times 8 = 32$ years

Q17 Text Solution:

10 years ago from now, let ages of 'R' and 'L' be '3x' years and '5x' years, respectively.

So, 5x – 3x = 10

Or, 2x = 10

Or, x = 5

Present age of 'L' = 5x + 10 = 5 × 5 + 10 = 35 years

Age of 'L', five years hence from now = 35 + 5 = 40 years

Hence, option e.

Q18 Text Solution:

Let Fina's present age = x

Then, Alina's present age = (x+3x)= 4x

Therefore, after 12 years,Alina's and Fina's age will be (4x+12) and (x+12) respectively.

According to the question,

$(4x + 12) = 2\frac{1}{2}(x + 12)$

$(4x + 12) = \frac{5}{2}(x + 12)$

8x + 24 = 5x + 60

x= 12

Therefore, Alina's age = 4x=48 years

Fina's age = 12 years

After 12 years the required ratio = $\frac{4x+12}{x+12} = \frac{48+12}{12+12} = \frac{60}{24}$ = 5:2

Q19 Text Solution:

Let, Total of current ages of the 2 daughters is A years.

Then, father's current age = 4A years.

(4A + 15) = 3 (A +30)

4A + 15 = 3A + 90

A = 75

Therefore,Total of current ages of the 2 daughters is = 75 years.

Q20 Text Solution:

Let the present age of father and son is x and y

Then as per question x+y = 54.....(i)

Given x = 5y .....(ii)

Substituting equation (ii) in eq (i) we get,

5y + y = 54

6y = 54

y = 9

Putting value of y in eq. (ii) we get

x = 45

The age of father is 45 years.

Level-2

Q1 Text Solution:

Let the son's present age be x years. Then, (42-x) = x

⇒2x=42

⇒x=21

∴ Son's age 5 years back (21 - 5) =16 years

.

Q2 Text Solution:

Let the age of Sunil, Sunil's son, and Sunil's father be x, y, and z years respectively.

z = 5y,

x + 6 = z – x + y

and x + z = 85.

Solving the above equations in x, y, and z, we get that x = 30, y = 11 and z = 55.

Hence the sum of the ages of Sunil's son and Sunil is 41 years.

Q3 Text Solution:

Let present age of P, Q, R, and S is 'p', 'q', 'r', and 's' years respectively.

According to the question:

p: q = 5: 3

3p = 5q ..... (1)

(q + 6): (r + 6) = 4: 5

5q + 30 = 4r + 24

4r - 5q = 6 ..... (2)

(r - 4): (s - 4) = 5: 8

8r - 32 = 5s - 20

8r = 12+ 5s ..... (3)

p + s = 66 ..... (4)

From (1) and (2):

4r - 3p = 6

8r - 6p = 12 ..... (5)

From (3) and (5):

12+5s - 6p = 12

5s = 6p

s = 1.2p ..... (6)

From (4) and (6):

p + 1.2p = 66

P = 30

s = 36

q = 18

r = 24

Hence, required average = $\frac{30+18+24+36}{4}$ = 27 years

Q4 Text Solution:

Let, Present age of Deepak be 7x & of Ali be 6x.

Given, (7x+10) = (6x+10) + 10 => x = 10

So age of Deepak = 7x = 7(10) = 70

Deepaks's age after 12 years = 70+12 = 82

And, age of Ali = 6x = 6(10) = 60

Ali's age after 12 year = 60+12 = 72

Hence, required ratio = 82:72 = 41:36

Q5 Text Solution:

Given, the ratio of age of Anil and Babu is $3 : 2$.

Let 5 years ago the age of Anil be 3x and Babu be 2x.

The present age of Anil $= 3x + 5$

The present age of Babu $= 2x + 5$

According to the question,

The present age of Celin = present age of Anil -7

Present age of Dhanu $= 35 - 6 \Rightarrow 29$ years

Present age of Celin $= 2\times$ present age of Dhanu

$= 2 \times 29 \Rightarrow 58$ years

The present age of Anil $= 58 + 7 \Rightarrow 65$ years

$3x + 5 = 65$

$3x = 65 - 5$

$x = \frac{60}{3}$

$x = 20$

The present age of Babu $= 2 \times 20 + 5 \Rightarrow 40 + 5$

$= 45$ years

Q6 Text Solution:

Since, present ages of three persons Ravi, Giri, and Arvind are in increasing arithmetic progression with a common difference of 7.

Let the present ages of Ravi, Giri, and Arvind 'x', 'x + 7', and 'x + 14' years respectively.
According to the question:
(x + 7 + 3): (x + 14 - 9) = 5: 4
4x + 40 = 5x + 25
x = 15
Present age of Ravi = x = 15 years
Present age of Giri = x + 7 = 22 years
Present age of Arvind = x + 14 = 29 years
Required average age = $\frac{15+22+29}{3}$ = 22 years

Q7 Text Solution:

Let Jitu = 4x years and Mahesh = 5x years
So, Tushar = (5x - 8) years
So, according to the question,
(4x + 5) + (5x - 8 + 5) = 5x + 5 + 40 + 5 - 8
=> 9x + 2 = 5x + 42
=> 4x = 40
=> x = 10
So, present age of Tushar = 5 × 10 - 8 = 42 years

Q8 Text Solution:

Age of Shagun's grandfather 10 years ago = 5 times the Shagun's age
Age of Shagun's grandfather after 5 years = 3 times the Shagun's age
Calculation:
Let Shagun's and her grandfather's present ages be x and y years respectively
Now, as per the question,
(x - 10) x 5 = (y-10)
= 5x - 50 = y - 10)
=5x - 40 = y ----(i)
(x+5) × 3 = (y + 5)
=3x + 15= y +5
⇒ 3x + 10 = y ----(ii)
Now, Equating equation (i) and (ii)
⇒ 5x - 40 = 3x + 10
⇒ 2x = 50
⇒x = 25 years
Now, Shagun's grandfather's age = 3x + 10
= 3 × 25+ 10
⇒ 85 years
Required ratio = (25 - 5): (85 - 5)
⇒20: 80
1:4
The required ratio is 1:4

Q9 Text Solution:

Let the present ages of Abhishek and Bunty be x and y years respectively.
ATQ,
(x – 10) = 2(y – 10)
x – 2y = -10..... (i)
and
x + 10 = y + 10 + 20
x – y = 20.... (ii)
On solving equations (i) and (ii), we get
x = 50 years
So, age of Abhishek 4 year after = 50 + 4 =54 years

Q10 Text Solution:

Let, Present ages of P and Q be 'x' years and 'y' years, respectively.
From I:
According to the statement, x = y - 5
Also,
$\frac{x-5}{y-5} = \frac{3}{4}$
Or, $\frac{x-5}{x} = \frac{3}{4}$ [x = y - 5]
Or, 4x – 20 = 3x
Or, x = 20
y = 20 + 5 = 25
Ratio between their ages after 10 years = (20 + 10):(25 + 10) = 30:35 = 6:7
Hence, the statement I hold.
From II:
According to the statement, x = y - 5
Also,
$\frac{x-5}{y-5} = \frac{2}{3}$
Or, $\frac{x-5}{x} = \frac{x-5}{x}$ [x = y - 5]
Or, 3x – 15 = 2x
Or, x = 15
y = 15 + 5 = 20
Ratio between their ages after 10 years = (15 + 10):(20 + 10) = 25:30 = 5:6
Hence, statement II does not hold.
From III:

According to the statement, x = y - 10

Also,

$\frac{x-5}{y-5} = \frac{1}{2}$

Or, 2x – 10 = y - 5

Or, 2x – y = 5

Or, 2x – 10 - x = 5 [y = x + 10]

Or, x = 15

y = 15 + 10 = 25

Ratio between their ages after 10 years = (15 + 10):(25 + 10) = 25:35 = 5:7

Hence, statement III does not hold.

Hence, option a.

Q11 Text Solution:

Age of C after 7 years = 28 years

Present age of C = 28 - 7

2x - 23 = 21

x = 22

Average of present ages of A and B = x = 22 years

Sum of present ages of A and B = 22 × 2 = 44 years

Difference between present ages of A and B = x - 10 = 12 years

Present age of A = $\frac{44+12}{2} = 28\ years$

Required ratio = 28: 21

= 4: 3

Q12 Text Solution:

Let, present age of Tuman be "t", nephew be "a" , & niece be "b"

According to given conditions,

(t-5) = 2.25(a-5) ... (i)

(t + 2) = 2.6(b+2) ...(ii) ;

a = b + 7 ...(iii)

Solving, (i), (ii) & (ii) we get

t = 50, a = 25, b = 18

Q13 Text Solution:

Let 16 years ago,

Granddaughter age = x years

and Jaya's age = 8x

And eight years hence,

her grand-daughter's age will be 25% of the Jaya's age

x + 16 + 8 =

$\frac{1}{4}$ × (8x + 16 + 8)

=> 4x + 96 = 8x + 24

=> 4x = 72

=> x = 18

So, required ratio = (8×18 + 16 + 6): (18 + 16 + 6) = 83: 20

Q14 Text Solution:

According to question,

Ratio of age of P and Q before 8 years = 7:4 = 7a, 4a

Now,

(4a + 8 + 6) = 2 × (7a + 8 - 21)

(4a + 8 + 6) = 2 × (7a – 13)

4a + 14 = 14a – 26

10a = 40

Value of a = 4

So, present age of P = 7 × 4 + 8 = 36 years

Present age of Q = 4 × 4 + 8 = 24 years

So, present age of R = 30 × 3 – 36 – 24 = 30 years

Present age of S = 30 × 1.5 = 45 years

Age of S after 6 years = 45 + 6 = 51 years

Q15 Text Solution:

The age of Sonali is 25% more than the age of Mitra. If the ratio of the present age of Mitra to Sam is 4: 9 and after 12 years, the average of Sam and Sonali will be 40 years, then find the sum of the Ages of Sonali's four years hence and Sam six years ago.

Let the present age of Mitra and Sam be 4k and 9k years

Present age of Sonali = 125% of 4k =5k

$\frac{9k+12+5k+12}{2} = 40$

$14k = 80 - 24$

$14k = 56$

$k = 4$

$k = \frac{40}{7}$

Present age of Sonali = 5k = 20

The present age of Sam= 9k = 36

Required sum = 20 + 4 + 36 - 6 = 24 + 30 = 54 years

Q16 Text Solution:

From the given information,

Bhautiks age = 12 years

Ajay's age = 12 – 2 = 10 years

Let Shahrukh's age be 'a' years

Then, according to question-

When 10 years are subtracted from the present age of Shahrukh and then the result is divided by 6,

$\therefore \frac{a-10}{6} = 10$

$\therefore a - 10 = 60$

$\therefore a = 60 + 10 = 70$

Now, the ratio of ages of Ajay, Bhautik and Shahrukh

=10:12:70

=5:6:35

Q17 Text Solution:

Let the present age of father, mother and three children's be F, M, C_1, C_2 and C_3.

When the first child was born, the age of the first child was 0.

Average = 16 sum of their age = 16 × 3 =48

After n_1 years, second child was born, the age of first child will be n_1 years and age of second child be 0.

Average = 15.75, sum of their age = 15.75 × 4 = 63

Difference between the sum of their age after n1 years = 63 – 48 = 15

$3n_1 = 15$

$n_1 = 5$

After n_2 years, third child was born, the age of first child get increased by n_2 years, age of second child will be n_2 years, age of third child is 0.

Average = 14.2, sum of their age = 14.2 × 5 = 71

Difference between the sum of their age after n_2 years = 71 – 63 = 8

$4n_2 = 8$

$n_2 = 2$

After n_3 years, average is 15.2 years, sum of their age = 15.2 × 5 = 76

Difference between the sum of their age after n_3 years = 76 – 71 = 5

$5n_3 = 5$

$n_3 = 1$

First child was born 1 + 2 + 5 = 8 years ago.

So the age of the first child is 8 years.

Q18 Text Solution:

Total age of 5 members, 8 years ago = (25 x 5) years = 125 years.

Total age of 5 members now = [125 + (8 x 5)] years = 165 years.

Total age of 7 members now = (25 x 7) years = 175 years.

Sum of the ages of 2 children = (175 – 165) years = 10 years.

Let the age of the younger child be x years.

Then, age of the elder child = (x+4) years.

So, x+(x+4) =10

x=3

Age of younger child = 3 years.

Q19 Text Solution:

Let present ages of A and B are 'a' and 'b' years respectively.

According to the question:

(a - 2): (a + 10) = 4: 7

7a - 14 = 4a + 40

3a = 54

a = 18

Present age of A = a = 18 years

Sum of ages of A and B = a + b = x^2

Difference between ages of A and B = a - b = 72 - 12x

Age of A = $\frac{x^2+72-12x}{2} = 18$

$x^2 + 72 - 12x = 36$

$x^2 - 12x + 36 = 0$

$x = 6$

Sum of ages of A and B = x^2 = 36 years

Present age of B = 36 - 18 - 18 years

Age of A after 3 years = 18 + 3 = 21 years

Age of B before 7 years = 18 - 7 = 11 years

Required average = $\frac{21+11}{2}$

= 16 years

= (x + 10) years

Q20 Text Solution:

Let, present ages of Kumar and Alakh be 'x' years and 'y' years respectively.

5 years ago from now,

Age of Kumar = (x – 5) years

Age of Alakh = (y – 5) years

(x – 5) = 3 × (y – 5)

Or, x – 5 = 3y – 15

Or, 3y – x = 10 ----(i)

Again,

4 years hence from now,

Age of Kumar = (x + 4) years

Age of Alakh = (y + 4) years

(x + 4) = 2 × (y + 4)

Or, x + 4 = 2y + 8

Or, x – 2y = 4 ----(ii)

Solving equations (i) and (ii), we get

x = 32 and y = 14

Ratio of Kumar's age to Alakh's age, 10 years hence from now

= (32 + 10):(14 + 10) = 42:24 = 7:4

Present age of Aanchal = $28 \times (\frac{4}{7}) = 16$ years

Hence, option d.

Level-3

Q1 Text Solution:

Let 5 years ago the age of shanu be m

At present Shanu's fathers age = $20m$

12 years hence, shanu's age = $m + 5 + 12 = m + 17$

And his wife's age = $(m + 5) \times 3 = 3m + 15$

After 2 years of marriage, Shanu's age = $17 + m + 2 = 19 + m$

Now, Shanu's fathers age= $20m + 12 + 2 = 20m + 14$ years

Shanu's wife's age = $3m + 15 + 2 = 3m + 17$

Shanu's baby's age = 0 years

The average of all will be:

$19 + m + 20m + 14 + 17 + 3m + 0 = 18.5 \times 3 = 74$

$\Rightarrow 24m = 24$

$\Rightarrow m = 1$

Shanu;s fathers age when he gets the baby will be = 20×1 + 14 = 34

Hence, the correct option is 4th option.

Q2 Text Solution:

From 1 and 2 ,

$\frac{3x+5+7}{2x+5+7} = \frac{21}{16}$

48x + 192 = 42x + 252

X = 10

Present age of A = 2 x 10 + 5 = 25 yr

From 2 and 3,

21x - 16x = 10

5x = 10

X = 2

Present age of A = 16 x 2 - 7 = 32 - 7 = 25 yr

From 3 and 1 , 3x - 2x = 10

X = 10

Present age of A = 2 x 10 + 5 = 25 yr

Any two of the three statements are necessary to answer the question.

Q3 Text Solution:

Statement 1;

Golu's age = 6 + Karan's age

The average age of Golu and Karan = 15

Karan + Golu age = 30

2(Karan) + 6 = 30

Karan's age = 12 years

Golu's age = 18 years

Statement 2;

$(Sonu's\ age + 3) : (Karan's\ age - 7) = 23 : 5$

Taking both statements together;

$=> [Sonu's\ age + 3] : (12 - 7) = 23 : 5$

$=> Sonu's\ age = 20\ age$

Ratio of sonu : golu's age $= 20 : 18 = 10 : 9$

Hence,

Both the statements together are necessary.

Q4 Text Solution:

Option A:

Present age of A = 21 years

So the present age of B = 21 × $\frac{7}{3}$ = 49 years

Present age of C = $\frac{49}{1.4}$ = 35 years

So, the present average age of A, B and C = (21 + 49 + 35)÷3 = 35 years

So, option A can't be the answer.

Option B:

Present age of A = 20 years

So the present age of B = 20 × $\frac{12}{5}$ = 48 years

Present age of C = $\frac{48}{1.2}$ = 40 years

So, the present average age of A, B and C = (20 + 48 + 40)÷3 = 36 years

So, option B can be the answer.

Option C:

Present age of A = 27 years

So the present age of B = 27 × $\frac{5}{3}$ = 45 years

Present age of C = $\frac{45}{1.25}$ = 36 years

So, the present average age of A, B and C = (27 + 45 + 36)÷3 = 36 years

So, option C can be the answer.

Hence, option b.

Q5 Text Solution:

Sum of the present ages of A, B and C = 3 × 58 = 174 years

Sum of the present ages of A and B = 2 × 67 = 134 years

So, the present age of C = 174 – 134 = 40 years
For option A:
Present age of B = 1.75 × 40 = 70 years
So, the present age of A = 134 – 70 = 64 years
So, option A can be the answer.
For option B:
Present age of B = 1.65 × 40 = 66 years
So, the present age of A = 134 – 66 = 68 years
So, option B can be the answer
For option C:
Present age of B = 1.60 × 40 = 64 years
So, the present age of A = 134 – 64 = 70 years
So, option C can be the answer
Hence, option A.

Q6 Text Solution:
Let, present ages of Ram and Kamal be '5x' years and '7x' years, respectively.
Difference in ages = 7x – 5x = 2x years
Option I:
2x = 4
x = 2
Ratio of ages after 10 years = (10 + 10):(14 + 10) = 20:24 = 5:6
Option I can be the answer.
Option II:
2x = 8
x = 4
Ratio of ages after 10 years = (20 + 10):(28 + 10) = 30:38 = 15:19
Option II can be the answer.
Option III:
2x = 2
x = 1
Ratio of ages after 10 years = (5 + 10):(7 + 10) = 15:17
Option III can be the answer.
Option IV:
2x = 10
x = 5
Ratio of ages after 10 years = (25 + 10):(35 + 10) = 35:45 = 7:9
Option IV can't be the answer.
Hence, the correct option is C.

Q7 Text Solution:
Since, the new average increases by 0.5 years.
So, sum of the ages of the added students – sum of the ages of the students who left = 60 × 0.5 = 30 years
Option A:
(45 + 22 + 31) – (17 + 24 + 27) = 30 years
So, option A can be the answer.
Option B:
(64 + 22 + 31) – (17 + 24 + 44) = 32 years
So, option B cannot be the answer.
Option C:
(37 + 22 + 31) – (17 + 24 + 19) = 30 years
So, option C can be the answer.
Hence, option c.

Q8 Text Solution:
Let the present age of B be x years
Therefore, present age of C = (80 – x) years
Present age of A = $\frac{5}{9}$ (80 – x) years
Present age of D = $\frac{5}{9}$ (80 – x) + 25 years
According to the question,
$\frac{5}{9}$ (80 –x) + 25 - (80 – x) = 5
Or, (80 – x){($\frac{5}{9}$) – 1} = -20
Or, 80 – x = 45
Or, x = 35 years
Therefore, present age of A = $\frac{5}{9}$ (80 – x) = 25 years
Present age of B = 35 years
Present age of C = 45 years
Present age of D = 25 + 25 = 50 years
For option A:
(25 – 10):(45 – 10) = 15:35 = 3:7 ≠ 1:2
So, option A cannot be the answer.
For option B:
(25 – 5):(45 – 5) = 20:40 = 1:2
And, (35 + 10):(50 + 10) = 45:60 = 3:4
So, option B can be the answer.
For option C:
(25 – 10):(45 – 10) = 15:35 = 3:7 ≠ 1:2
So, option C cannot be the answer.
For option D:
(25 – 5):(45 – 5) = 20:40 = 1:2
And, (35 + 20):(50 + 20) = 55:70 = 11:14 ≠ 3:4

So, option D cannot be the answer.

Hence, the correct option is B.

Q9 Text Solution:

According to question,

$= \mathrm{P} + 2 = \frac{2}{5} \times \mathrm{R} + \frac{1}{3} \times \mathrm{Q}$. .....(1)

Also

$= \mathrm{Q} = \mathrm{M} + 6$. .....(2)

And, $\mathrm{M} = \mathrm{P} - 4$ ..... (3)

From (2) and (3), we get

$= \mathrm{Q} = \mathrm{P} - 4 + 6$

So, $\mathrm{Q} = \mathrm{P} + 2$

Put value of Q in equation (1)

$= Q = \frac{2}{5} \times \mathrm{R} + \frac{1}{3} \times \mathrm{Q}$

$= \frac{2}{3} \times \mathrm{Q} = \frac{2}{5} \times \mathrm{R}$

$= \frac{\mathrm{Q}}{\mathrm{R}} = \frac{3}{5}$

Now,

$= \left(\mathrm{Y} + 20\right)\% = \frac{(5-3)}{5} \times 100 = 40\%$

$\text{Value of } \mathrm{Y} = 40 - 20 = 20$

Q10 Text Solution:

$\frac{(A+D)}{2}$ = Y + 8

A + D = 2Y + 16..... (1)

Also, C – A = 4

C = A + 4..... (2)

Also, C = Y + 4 + D..... (3)

From (2) and (3)

A + 4 = Y + 4 + D

A = Y + D

Put this value in equation (1), we get

Y + D + D = 2Y + 16

2D = Y + 16

D = $\frac{Y}{2}$ + 8

So, A = Y + $\frac{Y}{2}$ + 8 = $\frac{3Y}{2}$ + 8

So, C = 3$\frac{Y}{2}$ + 8 + 4 = $\frac{3Y}{2}$ + 12

So, B = 3$\frac{Y}{4}$ + 6

Also,

A + B + C + D = 4 x (2Y + 1)

$\frac{3Y}{2}$ + 8 + $\frac{3Y}{2}$ + 12 + $\frac{3Y}{4}$ + 6 + $\frac{Y}{2}$ + 8 = 8Y + 4

$\frac{15Y}{4}$ = 30

Value of Y = 8

I. Age of B after Y years is same as same of A.

Present age of A = 3 x $\frac{8}{2}$ + 8 = 20 years

Present age of B = 3 x $\frac{8}{4}$ + 6 = 12 years

So, age of B after Y years = 12 + Y = 12 + 8 = 20 years

This statement is true.

II. Ratio of present age of C and D is 2:1 respectively.

Present age of C = 12 x 2 = 24 years

Present age of D = $\frac{8}{2}$ + 8 = 12 years

Required ratio = 24:12 = 2:1

This statement is true.

III. Age of B and D is same.

Age of B = D = 12 years

This statement is true.