2026_PST I_Average & Ratio and Proportion_Weekly Assessment I

Test Summary

- No. of Sections: 2
- No. of Questions: 30
- Total Duration: 60 min

Section 1 - MCQ

Section Summary

- No. of Questions: 20
- Duration: 30 min

Additional Instructions:

None

Q1. The average age of a group of 8 persons is 40 years. A person aged 60 years leaves the group and another person aged 44 years joins the group. The new average age of the group is

- 44 years
- 38 years
- 45 years
- 40 years

Q2. The average age of the three boys is 15 years. Their ages are in the ratio 3 : 5 : 7. The age of the oldest is

- 7 years
- 14 years
- 20 years
- 21 years

Q3. The average age of a class of 40 boys is 16.95 years, but by the admission of a new boy the average age is raised to 17 years. Find the age of the new boy.

- 18 years
- 16.95 years
- 19 years
- 41 years

Q4. The average age of 3 children is 9 years. This gets doubled if their father's age is also included. The age of the father is

- 73 years
- 27 years
- 45 years
- None of these

Q5. 5 years ago the average age of A, B, C and D was 46 years. E joins them now and the average age of all the five is 50 years. The age of E is

- 45 years
- 50 years
- 47 years
- 46 years

Q6. In a boarding house the number of boarders increases at a certain rate per annum. Four years ago the numbers of boarders was 49, now it is 196. What will be two years hence?

- 196
- 392
- 588
- 391

Q7. If 20 chairs are bought at Rs.5 each and 15 at Rs.4.50 each and 15 more at Rs.4 each sold so as to gain 1/5 of the cost price, then what is the average selling price of a chair?

- Rs.4.55
- Rs.5.46
- Rs.4.60
- None of these

Q8. The average age of a class of 22 students is 21 years. The average increases by 1 when the teacher's age is also include. What is the age of the teacher?

- 44 years
- 46 years
- 38 years
- 24 years

Q9. The average attendance of a class for Monday, Tuesday and Wednesday was 38. The average for Tuesday and Wednesday and Thursday was 42. The attendance on Thursday was 40. Find the attendance on Monday.

- 14
- 22
- 28
- 26

Q10. A and B enter into a partnership by investing Rs.3750 and Rs.4800 respectively. After 3 months, C joined them with Rs.4500. If the total profit earned by them after one-year partnership is Rs.4452, then what is the share of B in profit?

- Rs.1186
- Rs.1458
- Rs.1792
- Rs.1878

Q11. The sum of the three numbers is 116. The ratio of second to third is 9:16 and the first to the third is 1:4. The second number is

- 64
- 32
- 34
- 36

Q12. Last year in CAT, each section of the question paper had a different weightage. The weightage of QA, DI and VA/RC sections was 8,9 and 10 respectively. The maximum marks in all the three sections together were 810. Wrong answer did not carry negative

marks as a penalty. If Padma had gotten 20% more marks in QA and 8% more marks in DI and 7.14% more marks in VA/RC, then she must had gotten 100% marks in all the three sections. The total marks that Padma had scored is

- 770
- 700
- 750
- 730

Q13. The ratio of the number of boys and girls in a school is 3:2. If 20% of the boys and 30% of the girls are scholarship holders, the percentage of the students who are not scholarship holders is

- 76%
- 90%
- 79%
- 92%

Q14. If a:b = 3:5; b:c = 2:6 ; c:d = 4:1,then find a:b:c:d

- 12:20:60:15
- 20:12:15:60
- 60:15:12:20
- none of these

Q15. If x : y = 7 : 9 and y : z = 5 : 4, then find the value of x : y : z.

- 7 : 9 : 5
- 35 : 45 : 36
- 9 : 35 : 5
- 4 : 5 : 63

Q16. 20 litres of milk when added to a 60 litre mixture of milk and water ,the concentration increases by same percentage points as decreased by addition of 30 litres of water to the same solution.What is the ratio of milk and water initially?

1:2

2:1

3:4

4:5

Q17. Rs.624.60 is to be divided among A, B and C. If A receives Rs.130 less than C and C receives Rs.25 less than B, then how much will each receive? (in order of A, B and C respectively) (in Rs.)

243.20, 268.20, 113.20

243.20, 113.20, 268.20

268.20, 113.20, 243.20

113.20, 268.20, 243.20

Q18. The fourth proportion to 0.12, 0.21, 8 is

14

56

17

20

Q19. 400 g of 45% phosphoric acid solution was added to 700 g of 70% phosphoric acid solution. Find the concentration of the acid in the mixture. (round off the answer to the closest integer)

74%

68%

61%

50%

Q20. The income of A and B are in the ratio of 5: 3. The expenses of A, B and C are in the ratio 8: 5: 2. If C spends 2000 and B saves Rs. 700, then A saves

Rs. 1000

Rs. 2000

Rs. 2500

Rs. 1500

Section 2 - Fillups

Section Summary

- No. of Questions: 10
- Duration: 30 min

Additional Instructions:

None

Q1. The average age of 30 students in a class is 16 years. If the age of their teacher is 47 years. What is the average age of the students and the teacher combined?

Q2. If 1 gm of gold 10 carats fine, 1 gm of gold 11 carats fine, 2 gm of gold 12 carats fine, and 5 gm of gold 13 carats fine be mixed together, then the fineness of the resulting compound is

Q3. In a certain state, the army was originally organized in battalions, each of 1500 men. After calling up a further 10000 recruits the army was rearranged so that there were 2000 men in each battalion and the state claimed that it had reduced its army by 50 battalions. What was the number of battalions originally?

Q4. In a certain state, the army was originally organized in battalions, each of 1500 men. After calling up a further 10000 recruits the army was rearranged so that there were 2000 men in each battalion and the state claimed that it had reduced its army by 50 battalions. What was the number of battalions originally?

Q5. If a : b = 5 : 6 and b : c = 8 : 5, then find the value of (a + b + c) / (2a – b – c).

Q6. If three numbers are in the ratio of 1 : 2 : 3 and half the sum is 18, then the ratio of squares of the numbers is:

Q7. A, B and C invests Rs.4000, Rs. 5000, Rs. 2000 for 6 months , 8 months, 12 months respectively. By end of the year total profit is Rs.2200.What Is the share of profit received by c?

Q8. Resultant price of mixture of golden rice is Rs. 480 per kg. This mixture is made from two varieties of golden rice which are having price of Rs. 420 per kg and Rs. 520 per kg. What should be ratio of quantities of both types of golden rice?

Q9. The ratio of the number of boys to the number of girls in a school of 1638 is 5 : 2. If the number of girls are increased by 60, then what must be the decrease in the number of boys, so as to make the ratio of boys to girls as 4 : 3?

Q10. A man invests Rs. 10,000 in some shares in the ratio 2:3:5 which pay dividends of 10%, 25% and 20% (on his investment) for that year respectively. Find his dividend income.

Answer Key & Solution

Section 1 - MCQ

Q1

38 years

Solution

Total age of 8 persons = 8 × 40 = 320 years.

Total age of the present group of 8 persons = 320 – 60 + 44 = 304 years. ∴ The average = 304/8 = 38 years.

Q2

21 years

Solution

Let their ages be 3x, 5x and 7x

Total of their ages = 3x + 5x + 7x = 3 × 15 or 15x = 45 => x = 3

The age of the oldest = 7x = 21 years.

Q3

19 years

Solution

40*16.95 = 678

41*17 697

697 - 678 = 19 years.

Q4

None of these

Solution

No Solution

Q5

46 years

Solution

Total age of A, B, C and D five years ago = 4 × 46 = 184 years.

Total age of A, B, C and D new = (184 + 4 × 5) = 204 years.

Total age of A, B, C, D and E now = 5 × 50 = 250 years. The age of E = 250 – 204 = 46 years

Q6

392

Solution

We have 49[1 + (R/100)]4 =196 => [1 + (R/100)]2 = 2, Now 196 [1 f (R/100)]2 = 196 × 2 = 392.

Q7

Rs.5.46

Solution

Average C.P. = (20 × 5 + 15 × 4.5 + 15 × 4)/(20 + 15 + 15).

= Rs. 4.55. S.P. = (1 + 1/5) × 4.55 = Rs. 5.46.

Q8

44 years

Solution

We have, Average x Number of = Total

21 years x 22 Numbers = 462 years .... (1)

and 22 years x 23 Numbers = 506 years .... (2)

Equation (1) gives the sum total of ages of all the students while equation (2) gives the sum total of ages of all the students along with the teacher.

Teacher's age = (2) – (1) = 506 – 462 = 44 years.

Q9

28

Solution

M + T + W = 38 × 3 = 114. T + W + Th = 42 × 3 = 126. Attendance on Thursday = 40. => T + W = 126 – 40 = 86.

= 114 – 86 = 28.

Q10

Rs.1792

Solution

Profit ratio = A : B : C = (12*3750) : (12*4800) : (9*4500)

= 50 : 64 : 45

Total profit = Rs.4452

So, share of B in profit = 4452 * (64/(50+64+45)) = Rs.1792

Q11

36

Solution

Second:Third=9:16Third:first=4:1 = 16:4∴Second:Third:first=9:16:4

As per question,

9x + 16x + 4x = 116

29x = 116

x= 4

So, second number is 9 * 4 = 36

Q12

730

Solution

8x + 9x + 10x =810 => x =30

Total marks in QA ---> 240

DI ---> 270

VA/RC ---> 300

Now her score in QA--->240/1.2 =200

Her score in DI =270/1.08 =250

Her score In VA/RC =300/1.0714 =280

Her total score =200 + 250 + 280 = 730

Q13

76%

Solution

Let there be 100 students.

Then number of boys = (3/5)*100 = 60

Number of girls = (2/5)*100 =40

Total scholarship holders =20 % of 60 + 30 % of 40= (20/100)×60+ (30/100)×40 = 12+12=24

Number of students without scholarship =100−24=76

∴% of students without scholarship = (76/100)*100 % = 76%.

Q14

12:20:60:15

Solution

a:b = (3:5)*2= 6:10

b:c = (2:6)*5=10:30

a:b:c= 6:10:30

c:d = 4:1

(a:b:c)*2= 12:20:60

(c:d)*15 = 60:15

a:b:c:d= 12:20:60:15

Q15

35 : 45 : 36

Solution

x : y = 7 : 9 &

y : z = 5 : 4

LCM of 9 and 5 is 45

(7 x 5) : (9 x 5) : (4 x 9)

= 35 : 45 : 36.

Q16

3:4

Solution

Let k litres be the amount of milk in 60 litres of solution.

So the concentration of milk =k/60.

If 20 litres of milk is added, concentration of milk =(k +20)/80. If 30 litres of water is added, milk concentration =k/90.

So we have

(k + 20/80) – k/60 =k/60 – k/90

k =180/7.

So milk to water ratio =(180/7) : (240/7) =3:4

Q17

113.20, 268.20, 243.20

Solution

A + B + C = 624.6 ....(1)

A = C – 130 ....(2)

C = B – 25 ....(3)

=> (C – 130) + (C + 25) + C = 624.60.

=> 3C = 624.60 + 105.

=> C = Rs. 243.20, B = Rs. 268.20, A = Rs.113.20.

Q18

14

Solution

0.12x=0.21×8

⇒x=0.21×8/0.12

= 21x8/12

= 14

Q19

61%

Solution

Amount of acid in the 1st solution = 0.45 × 400 = 180 g.

Amount of acid in the 2nd solution = 0.7 × 700 = 490 g.

Total amount of acid = 180 + 490 = 670 g.

∴ Required concentration = 670 / (400 + 700) × 100 = 60.9%

Q20

Rs. 1500

Solution

Section 2 - Fillups

Q1

17 years

Solution

Q2 12.22 carats

Solution

Q3 220

Solution

Q4 220

Solution

Q5 59

Solution

Q6 36 : 144 : 324

Solution

Q7 600

Solution

Q8 1:2

Solution

Q9 466

Solution

Q10 1950

Solution