Mixed Questions

1. Bottle 1 contains a mixture of milk and water in 7:2 and Bottle 2 contains a mixture of milk and water in 9:4. In what ratio of volumes should the liquids in Bottle 1 and Bottle 2 be combined to obtain a mixture of milk and water in 3:1?

A. 27:14   B. 27:13   C. 27:16   D. 27:18

2. Out of the shirts produced in a factory, 15% are defective, while 20% of rest are sold in the domestic market. If the remaining 8840 shirts are left for exports, then the number of shirts produced in the factory is

A. 13600   B. 13000   C. 13400   D. 14000

3. If 738A6A is divisible by 11, then the value of A is

A. 6   B. 9   C. 3   D. 4

4. Excluding stoppages, the speed of a bus is 80 kmph and including stoppages, it is 60 kmph. For how many minutes does the bus stop per hour?

A. 12   B. 15   C. 18   D. 20

5. If a train runs with the speed of 48 kmph, it reaches its destination late by 12 minutes. However, if its speed is 64 kmph it is late by 3 minutes only. The right time to cover its journey (in minutes) is:

A. 24   B. 18   C. 20   D. 22

6. The sum of income of A, B, C is Rs. 30000. A, B, and C spend 75%, 70% and 62% of their income. If their savings are in ratio 20 : 21 : 19. Then what are their salaries?
A. 12000, 10500, 7500

B. 12000, 10000, 8000

C. 10000, 12000, 8000

D. 8000, 16000, 6000

7. A does 80% of a work in 20 days. He then calls in B and they together finish the remaining work in 3 days. How long B alone would take to do the whole work?

A. 23 days

B. 37 days

C. 37.5 days

D. 40 days

E. None of these

8. There were 8 participants in challenge of Shooting and the average score was 87. The winner got 2 more score than the first runner up. Average of rest 6 participants is 85. What are the scores of winner and 1st runner up?

A. 94, 92   B. 90, 92   C. 94, 96   D. 88, 90

9. The profit percentage on the three articles A, B and C is 10%, 20% and 25% and the ratio of the cost prices is 1 : 2 : 4. Also the ratio of number of articles sold of A, B and C is 2 : 5 : 2, then the overall profit percentage is.

A. 21%   B. 23%   C. 19%   D. 24%

10. The difference between compound interest and simple interest on an amount of Rs. 15,000 for 2 years is Rs. 96. What is the rate of interest per annum?

A.8   B.10   C.12   D. Cannot be determined E. NOT

11. **Statements:**

Some additions are subtractions.

No subtraction is multiplication.

All multiplications are divisions

Conclusions:

Some divisions are additions

Some multiplications are additions

No division is addition

A. None follows

B. Only I follows

C. Only II follows

D. Only either I or III follows

E. Only III follows

12. **Statements:**

All poles are fans.

All fans are stands.

Some stands are lines.

Some lines are boxes.

Conclusions:

Some boxes are poles.

Some fans are boxes.

Some lines are poles.

Some lines are fans.

A. All not follows

B. Only I and II not follow

C. Only II and IV not follow

D. Only III and IV not follow

E. Only I, II and IV not follow

13. Ajay walks 24 km towards East and turns to right hand side and takes a drive of another 10 km. He then turning to his right (drives towards West) another 10 km. He then turns to his left & walks another 8 km. After that, he turns to his right & travels 14 km. How far is he from his initial point & in which direction?

 A. 20 km East

B. 18 km south

C. 16 km West

D. 10 km South

E. None of these

14. If A + B means A is the mother of B; A − B means A is the brother B; A % B means A is the father of B and A x B means A is the sister of B, which of the following shows that P is the maternal uncle of Q?
A. Q − N + M x P   B. P + S x N − Q   C. P − M + N x Q   D. Q − S % P

15. 10, 11, 13, 21, 69, ?
A. 384   B. 490   C. 453   D. 390

16. 3, 5, 14, _____, 107
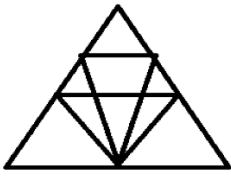A. 42   B. 28   C. 30   D. 16

17. Position of Atul in a row is 26th from the right side of the row. He is sitting 38th from the left side of the row. Find out the total number of people in the row.
A. 62   B. 63   C. 64   D. 65

18. Wine is related to Grapes in the same way as Vodka is related to
A. Flour   B. Oranges   C. Potatoes   D. Apples

19. Find the number of triangle in the given figure.

A. 12   B. 18   C. 22   D. 26

20. A man pointing to a photograph says, "The lady in the photograph is my nephew's maternal grandmother." How is the lady in the photograph related to the man's sister who has no other sister?

A. Mother   B. Cousin   C. Mother–in–law   D. Sister–in–law

Mixed questions - 1

1) Mixture Ratio (Milk : Water = 3 : 1)

Let Bottle 1 = 7 : 2 → Milk % = 7/9

Bottle 2 = 9 : 4 → Milk % = 9/13

Final = 3 : 1 → Milk % = 3/4

∴ Ratio = $\dfrac{3/4 - 9/13}{7/9 - 3/4}$ = $\dfrac{(39-36)/52}{(28-27)/36}$

$= \dfrac{3/52}{1/36} = \dfrac{3 \times 36}{52} = \dfrac{108}{52}$

$= \dfrac{27}{13}$ //

2) Defective Shirt problem

Let total Shirts = x
Defective = 15% → 0.15x
Remaining = 0.85x
Sold in domestic = 20% of 0.85x = 0.17x
Exported = 0.85x − 0.17x = 0.68x

$0.68x = 8840$ → $x = \dfrac{8840}{0.68} = 13000$ //

3. Divisibility by 11

Number = 7 3 8 A 6 A
Alternate Sum = 7 − 3 + 8 − A + 6 − A = 18 − 2A
For divisibility by 11 → divisible by 11
Try A = 3 :
   18 − 2(3) = 12 → Not divisible
   A = 6 , 18 − 12 = 6

A - 9' 12 - 18 - 0 ✓
→ divisible
Ans. B. 9 ** ✓

A) Bus stops per hour

Speed without stop - 80
Speed with stops = 60
So, bus is running 60/80 = 3/4 of h

$\frac{1728 \times 5}{18}$ That means it stops 1/4 of time per h
= 15 minutes,

5) Train Late problem

Let distance - x
Time - x/speed

$$\frac{x}{48} - \frac{x}{64} = 9$$

$$x\left(\frac{4-3}{192}\right) = 9$$

$$x\left(\frac{1}{192}\right) = 9$$

$$x = 9 \times 192$$
$$x = 1728$$

$\boxed{x = 28.8 \text{ Km}}$

∴ Time at correct speed - 28.8/6
= 0.42 h
= 28.8

6) Income and Saving

Let incomes be A, B, C → A + B + C = 30000

A saves 25% → 0.25A
B saves 30% → 0.30B
C saves 38% → 0.38C

Given:
$$0.25A : 0.30B : 0.38C = 20 : 21 : 19$$

∴ A · 120000, B - 10500, C = 7500

7) work problem

A does 80% in 20days → 100% in 25days
So work left - 20% in 3days by A+B
20% in 3days → full work in 15days together

A's rate - 1/25, A+B = 1/15 → B - 1/15 - 1/25
$$B - 37.5 days$$

8) Shooting Average

Total Score = 8 × 87 = 696
6 players avg - 85 → total = 510
Remaining 2 = 696 - 510 = 186
Let winner = x, runner-up = x-2
x + x - 2 = 186 → 2x = 188
→ x - 94, x-2 = 92

9) overall profit%

Cost price ratio : A : B : C = 1 : 2 : 4
Let CPS = 1, 2, 4

Profit% = 10%, 20%, 25%
Selling price = 1.1, 2.4, 5
items sold ratio = 2:5:2

∴ Total CP = 2×1 + 5×2 + 2×4 = 2+10+8
= 20

Total SP = 2×1.1 + 5×2.4 + 2×5 = 2.2+12
10 = 24.2,,

Profit = 4.2/20 = 21%,,

10) CT - ST Difference

Difference for 2 yrs = $p(R^2)/100^2$

$$96 = \frac{150000 \, R^2}{100^2}$$

$$R^2 = \frac{32}{96} \times \frac{2}{\cancel{10000}}_{\cancel{5000}_{3,}} $$

⟹ 64R

$$R^2 = 64 \Rightarrow \boxed{R=8}$$

11) Syllogism

only Conclusion I & III have possibility
so only either I or III follows,,

12) Syllogism

Conclusion I ⟶ boxes ⟶ Poles = No relati

II fans → boxes = no rotation
IV - lines → fans = no such statement
only III is possible. (not follow)

13) Direction

Path:
East 24
Right (South) 10
Right (west) 10 → now at 14 East.
left (South) 8 → total South = 18
Right (west) 14 → now at 0 East → 14-14 = 0

So → 18 Km South.

14) Maternal uncle logic

Maternal uncle - mother's brother
Option C: P-M+N×Q
P is brother of M, M is mother of N, N is
Sister of Q → P is maternal uncle of Q.

Ans:- C. P → M+N×Q

15) Series: 10, 11, 13, 21, 69, P

Check pattern:
+1, +2, +8, +48 → multiplying pattern

Try difference method:
11-10 = 1, 13-11 = 2, 21-13 = 8, 69-21 = 48

Next: ×3 or ×4 +48×3 = 144 ?
+144 = 213,,

Try better approach:

10
10+1 = 11
11+2 = 13
13+8 = 21
21+48 = 69
69 + (48×3) = 69+144 = 213 → not matches

· Check option match → A. 324,,

16) Series: 3, 5, 14, ?, 109

Check pattern:
3 → 5 (+2)
5 → 14 (+9)
Next: maybe +27? → 14 + 27 = 41
Then 41+68 = 109

Ans - A. 42

17) Position

From left - 38
From right - 26
Total = 38 + 26 - 1 = 13,, B. 63

18) Wine : Grapes → Vodka : ?
Wine from Grapes, Vodka from

C. potatoes

19) Triangles in a Figure

No image, so can't answer precisely

C. 22 (Standard triangular puzzle)

20) Lady is nephew's maternal grandmother.

Nephew → sister's son
Maternal grandmother → man's mother.

So the lady is man's mother.