DECISION MAKING

1 . A and B are brothers , C and D are brothers A's son is D's brother , how is B related to C .

= > A and B are Males, so as C and D,

If C is A's son then D is also son of A.

then,B will be Uncle of C and D.

2 . Murali's present age is half of his fathers's age before 10 years his father's age was thrice his age . Find the persent age of murali and his father .

= > present age = x

Murali age = x

Father age = 2 x

$\frac{x-10}{2x-10} = \frac{1}{3}$

3x – 30 = 2x – 10

X = 20

Easy to go from option

20 , 40

20 – 10 , 40 – 10

10 : 30

3 . Aruns age is half as his father. Twelve years age his fathers age was 3 times that of aruns

What is present age of Arun ?

$\frac{x-12}{2x-13} = \frac{1}{3} = \quad 3x - 36 = 2x - 12$

= > x = 24

4 . The sum of ages of rani and mari is 14 years more than the sum of ages of mari and nancy. Find how many years nancy is younger than rani ?

Rani + ~~Mari~~ = ~~Mari~~ + nancy + 14

Rani – nancy = 14 (Difference)

5 . A mother is 20 years older than her daughter 4 years before she was 5 times of her daughters age at that time how old is the daughter how ?

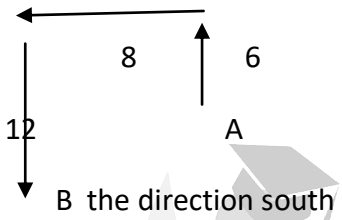
= > Let X be daughter age , X + 20 be mothers age

$$\frac{x-4}{x+20-4}=\frac{1}{5} \quad => 5x-20=x+16$$

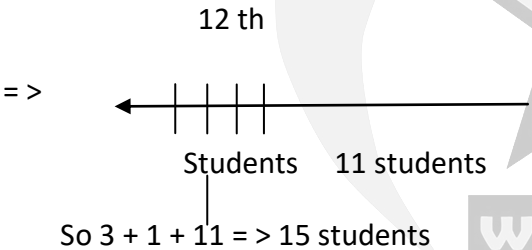
= > 4x = 36

X = 9

6 . Ram state from a point A and walks 6 Km north then turns left and walks 8 km , then left and walks 12 km upto the point B. What is the direction of Ram ?



7 . In a row of students the place of rahul from right is 12th and from left is 4 th How many students should be added to make the total no.of students 28 ?



To get 28 students we must add 15 + 13

13 students

8 . A persons travels from A to B at an average speed of 60 Km/hr and B to C at 50 Km/hr and C to D 40Km/hr The distance from A to B , B to C , C to D are equal ,

Find average speed ?

Average speed $= \frac{3xyz}{xy+yz+zx}$

$$= \frac{3\times 60\times 50\times 40}{60\times 50+50\times 40+60\times 40}=\frac{3{,}60{,}000}{7100}$$

= 48.65 km/hr

9 . From trichy bus stand if we buy 3 tickets to karur and 2 ticket to pudukkottai, the cost is 85 , but if we buy 2 ticket to karur and one to pudukkottai the cost is 50 Find fare ?

Let karur be X , pudukkottai be Y

3x + 2y = 85 ------- > 1

2x + y = 50 ---------- > 2

Multiply equation 2 X 2

4x + 2y = 100

3x + 2y = 85

X = 15

substitue X = 15 in equation 2 ,

2 (15) + y = 50

Y = 50 – 30

Y = 20

10 . Three shirts four pants cost is 3680. Two pants and one shirts is 1680 . Find cost of shirt and pant ?

Let 'S' be shirt and 'P' be Pants,

= > 3s + 4 p =3680 ------- > 1

1s + 2p = 1680 ----- > 2

Multiply Equation 2 X 2, and by solving we get s=320,

Subtract s = 320 in 2

320 + 2p = 1680

2p = 1680 – 320

2p = 1360

P = 680

S = 320 , p = 680

11 . An employee spends on Rs.2500 for 8 months and 1500 rs for next 4 months if he saves 10,000 that year . Find his monthly income

= > (8 X 2500) + (4 X 1500) + salary

= > 20000 + 6000 + 10,000

= > 36000 yearly salary

=>36000/12 (for monthly)

= > 3000 monthly

12 . the income in 3 months of a person is same as his expenditute in 4 months if his annual saving is Rs.600 What is his monthly income ?

Savings = Income – Expenditute

600 = 3x – 4x

S0 x = 600

3 months income = 600

For one month = 200

13 . In a group of cows and hens the number of legs are 114 more than twise the number of heads. The number of cow is ?

Head count for cow and hens = (x + y)

Leg count for cow and hens = (2x + 4y)

2x + 4y = 2(x + y) + 14

~~2x~~ + 4y = ~~2x~~ + 2y + 14

4y – 2y = 14

2y = 14

Y = 7

14 . There are deer and peacock is 200 . total number of head is 80 . The total number of heads is 80. The total number of legs is 200. How many peacock are there ?

Head and leg for deer is ---- > x and 4x respectively

Head and leg for peacock is ----- > y and 2y respectively

multiply equation 2 X 2

2x + 4y = 200

2x + 2y = 160

2y = 40

=> y = 20

x + 20 = 80

x = 60 peacock

15 . A train 150m long passes a telegraph post in 12 sec Find the speed ?

$$Speed = \frac{Distance}{time}$$

$$= \frac{150}{12}$$

m/s ----- > Km/hr multiply by 18/5

$$\frac{150}{12} X \frac{18}{15} => 45\ km/hr$$

16 . A book contains 144 pages each pages contain 25 lines How many page will the book contain if every page has 24 line ?

$$=> \frac{Total\ page \times lines}{no.of\ pages} = \frac{144X25}{24} = 150$$

17 . If a particular amount distributed to each of 14 students is Rs.80 more than the amount distributed to each of 18 students Find the answer ?

Let unknown be X ,

$$\frac{x}{14} = \frac{x}{18} + 80$$

$$\frac{x}{14} - \frac{x}{18} = 80$$

$\frac{4x}{252} = 80$, $4x = 80\ X\ 252$

$x = \frac{80X252}{4}$

X = 5040

18 . A car is travelling at the average speed at 50 Km/hr Find the distance coverd in 12 minutes?

Speed = 50km/hr

Convert in m/s = => $\frac{50\times5}{18} = \frac{250}{18} m/s$

250m ----- > 18 sec

$for\ 12\ \text{min} => \frac{250 \times 12 \times 60}{18}$

= 10000 m

= 10 Km

19 . In a clock the angle traced by the hour hand in 12 hour is ?

For 1 hour angle = 30^0

For 12 hour angle = 360^0

20 . If two third of four fifth of even eigth of a number is 63 then the number is ?

$=> \frac{2}{3} \times \frac{4}{5} \times \frac{7}{8} x = 63$

$x = 63 \times \frac{8}{7} \times \frac{5}{4} \times \frac{3}{2}$

X = 135

21 . Average of non zero number and its equal is 5 times the number then the number is

Let Unknown be x ,

So , $(x + x^2)/2 = 5x$

$x + x^2 = 10x$

$x^2 = 9x$

x = 9

22 . If the sum of rational number and its reciprocal is 13/6 Find the number is 13/6 Find the number ?

From option $\frac{2}{3} \times \frac{3}{2} = \frac{4+9}{6} = \frac{13}{6}$

So 2/3 or 3/2

23 . What integer must be added to each of the four number 10 , 18 , 22 , 38 so that they become a proportion ?

= > 10 , 18 , 22 , 38

$$\frac{10+x}{18+x} = \frac{22+x}{38+x} \quad = \frac{12}{20} = \frac{24}{40}$$

Both are in same proportion

So x will be 2

24 . 3 _ 25 here , which of the following number is suitable so that the number will be perfect square

--- > 3025 -→ 55^2

0 will be the number .

25 . How many numbers from 1 to 100 are there each of which is not only exactly divisile by 4

But also that 4 as a digit

-----> the numbers are 4 , 24 , 40 , 44 , 48 , 64 , 84

Total 7 numbers .

27 . If 235 = 38 and 452 = 45 then 345 = ?

2 + 3 + 5 = 38 (4+9+25)

4 + 5 + 2 = 45 (16+25+4)

3 + 4 + 5 + 50 (9+16+25)

So, 345=(9+16+25) = 50

26 . If the fraction ½ , 2/3 , 5/9 , 6/13 , 7/19 are arranged in ascending order of their values which one will be the fourth ?

-------→ ---→ 0.5 | 5/9 ---→ 0.56 | 7/9 ----- > 0.78

------→ 2/3 ----→ 0.67 | 6/13 --→ 0.46

Ascending order --→0.46 , 0.5 , 0.56 , 0.67 ,0.78

Fourth ---→ 0.67 = 2/3

27 . If 5 + 3 = 34 and 6 + 2 = 40 then value of 7 + 1 = ?

5 + 3 = 25 + 9 = > 34 ($5^2 + 3^2$)

6 + 2 = 36 + 4 = > 40 ($6^2 + 2^2$)

7 + 1 = 49 + 1 = > 50 ($7^2 + 1^2$)

7 + 1 = 50

29 . If $5^a = 6$, $6^b = 7$, $7^c = 5$ then find value of abc ?

By identify $x^a = y$ $y^b = z$ $z^c = x$

abc=1;

So $5^a = 6$ $6^b = 7$ $7^c = 5$

abc = 1

30 . ½ of ¾ of 4/9 of a number is 60. Then the number ?

$$\frac{1}{2} \times \frac{3}{4} \times \frac{4}{9} \times x = 60$$

$$x = 60 \times \frac{9}{3} \times \frac{4}{3} \times \frac{2}{1}$$

X = 360