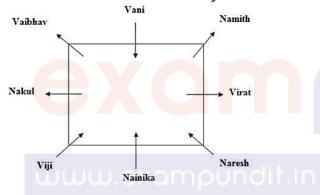


Solutions

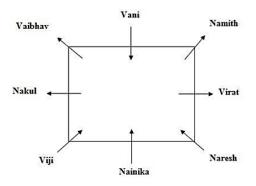
1. Ans. A.

- Only one person sits between Namith and Vaibhav and both are facing same directions.
- Namith sits fourth to the right of Viji, who doesn't sit in middle of the table.
- Vaibhav sits fourth to right of Naresh.
- Vani is sitting immediate right of Vaibhav.
- Nakul is to the immediate left of Vaibhav.
- Virat faces opposite direction of Vani and sits second to the left of Vani.
- Vani sits adjacent to Namith, who faces opposite direction of Vani.
- Viji is not a neighbour of Naresh and faces towards the centre.
- Nakul is sitting second to left of Nainika, who faces same direction as Viji.



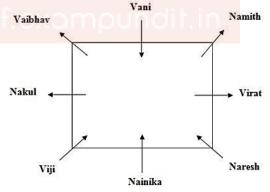
2. Ans. B.

- Only one person sits between Namith and Vaibhav and both are facing same directions.
- Namith sits fourth to the right of Viji, who doesn't sit in middle of the table.
- Vaibhav sits fourth to right of Naresh.
- Vani is sitting immediate right of Vaibhav.
- Nakul is to the immediate left of Vaibhav.
- Virat faces opposite direction of Vani and sits second to the left of Vani.
- Vani sits adjacent to Namith, who faces opposite direction of Vani.
- Viji is not a neighbour of Naresh and faces towards the centre.
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3. Ans. C.

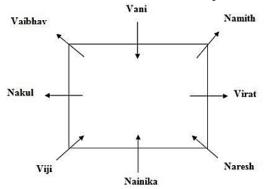
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4. Ans. E.

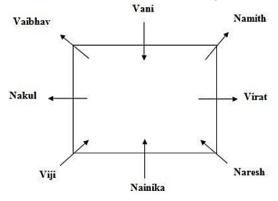
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- Virat faces opposite direction of Vani and sits second to the left of Vani.
- Vani sits adjacent to Namith, who faces opposite direction of Vani.
- Viji is not a neighbour of Naresh and faces towards the centre.
- Nakul is sitting second to left of Nainika, who faces same direction as Viji.



5. Ans. E.

- Only one person sits between Namith and Vaibhay and both are facing same directions.
- Namith sits fourth to the right of Viji, who doesn't sit in middle of the table.
- Vaibhav sits fourth to right of Naresh.
- Vani is sitting immediate right of Vaibhav.
- Nakul is to the immediate left of Vaibhay.
- Virat faces opposite direction of Vani and sits second to the left of Vani.
- Vani sits adjacent to Namith, who faces opposite direction of Vani.
- Viji is not a neighbour of Naresh and faces towards the centre.
- Nakul is sitting second to left of Nainika, who faces same direction as Viji.



6. Ans. E.

Statement: $T < P \le U$; $L > U \le K$; $P \ge R$ **Conclusions:**

 $K \ge U \ge P \ge R$ I. $K \ge R => True$ $L > U \ge P \ge R$ II. L > R => TrueBoth Follows

7. Ans. C.

Statement: $H = I \le R$; $M \ge R < S$ **Conclusions:** I = I II II M > I

On combining Statement we get: $H = I \le R \le M < S$ From the statement we can say $I \le M$ true and I

8. Ans. B.

Statement: $D > H \ge N$; $S > I \le H$ **Conclusions:** $I. N \le S II. N < D$

On combining Statement we get: $S > D > H \ge N \ge I$

or D > S > H \geq I \geq N....1)

For conclusion I: So from 1) $N \le S$ does not hold true

For conclusion II: So from 2) N < D hold true. So II conclusion true

9. Ans. B.

Statement: $P \le O < I$; P > Y > W**Conclusions:** $I. Y \le I II. O > W$

On combining Statement we get: W

For conclusion I: So from 1) Y≤ I does not hold

true

For conclusion II: So from 2) W< 0 hold true. So II conclusion true

10. Ans. A.

Statement: $A \ge B > C \ge F$; $Z < C \le D < E$ **Conclusions:** I. A > Z II. F > E

On combining Statement we get: $A \ge B > E > D \ge$

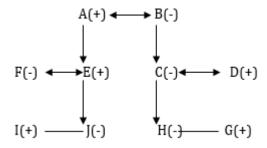
C≥F > Z1)

For conclusion I: So from 1) A > Z hold true For conclusion II: So from 2) F > E does not hold true. So I conclusion true

11. Ans. C.

Since each couple has a son and a daughter and there are three couples in a three generation family A must be first generation and must be married to B. D, E must be 2nd generation. C is B's daughter and H is E's niece. Also, J is B's granddaughter. It means J is E's daughter. As D is J's uncle which means D and E are not married. I and G must be males of 3rd generation. If F is I's mother then F must be married to either D or E. If F is married to

D then G must be the son of F which is not possible. Therefore F is married to E and D is married to N. D and C have children as H and J. E and F have children as H and I. Family Tree:

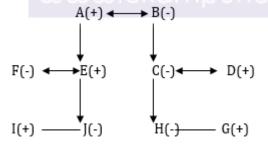


F is mother of 1.

12. Ans. B.

Since each couple has a son and a daughter and there are three couples in a three generation family A must be first generation and must be married to B. D, E must be 2nd generation. C is B's daughter and H is E's niece. Also, J is B's granddaughter. It means J is E's daughter. As D is J's uncle which means D and E are not married. I and G must be males of 3rd generation. If F is I's mother then F must be married to either D or E. If F is married to D then G must be the son of F which is not possible. Therefore F is married to E and D is married to N. D and C have children as H and J. E and F have children as H and I.

Family Tree:



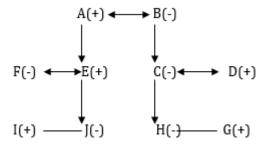
B is grandmother of G.

13. Ans. C.

Since each couple has a son and a daughter and there are three couples in a three generation family A must be first generation and must be married to B. D, E must be 2nd generation. C is B's daughter and H is E's niece. Also, J is B's granddaughter. It means J is E's daughter. As D is J's uncle which means D and E are not married. I and G must be males of 3rd generation. If F is I's mother then F

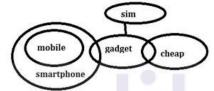
must be married to either D or E. If F is married to D then G must be the son of F which is not possible. Therefore F is married to E and D is married to N. D and C have children as H and J. E and F have children as H and I.

Family Tree:

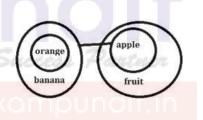


D is son-in-law of A.

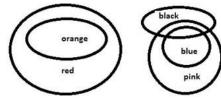
14. Ans. A.



15. Ans. E.



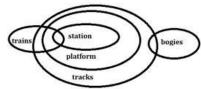
16. Ans. D.



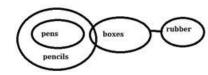
Conclusion 1 does not follow, as some red are already orange. So, some red are orange is a possibility does not follow.

Because some red are Orange it definitely follows, so it's not a possibility.

17. Ans. A.



18. Ans. A.



19. Ans. D.

The code for 'damaging' is - either di or yu. Below are the codes -

risk - nu

very - gl

also - fu

is - mi

low - se

associated - ta

that - po

large - ro

inherent - di/yu

damaging - yu/di

20. Ans. A.

'risk is very large' may represent by - gi mi nu ro Below are the codes -

risk - nu

very - gl

also - fu

is - mi

low - se

associated - ta

that - po

large - ro

inherent - di/yu

damaging - yu/di

21. Ans. C.

the code for 'associated' is - ta

Below are the codes -

risk - nu

very - gl

also - fu

is - mi

low - se

associated - ta

that - po

large - ro

inherent - di/yu

damaging - yu/di

22. Ans. E.

the code for 'inherent large risk' is - Cannot be determined

Below are the codes -

risk - nu

very - gl

also - fu

is - mi

low - se

associated - ta

that - po

large - ro

inherent - di/yu

damaging - yu/di

23. Ans. B.

'low risk associated industry' may represent by - ta hi nu se

Below are the codes -

risk - nu

very - gl

also - fu

is - mi

low - se

associated - ta

that - po

large - ro

inherent - di/yu

damaging - yu/di

24. Ans. D.

Thus P lives on the 5th number floor.

8	W
7	Q
6	٧
5	P
4	Т
3	R
2	U
1	S

Hence Option D is correct.

25. Ans. A.

U lives exactly between the floors of R and S.

8	W
7	Q
6	V
5	P
4	Т
3	R
2	U
1	6

Hence Option A is correct

26. Ans. C.

W lives on the topmost floor.

8	W
7	Q
6	V
5	P
4	Т
3	R
2	U
1	S

Hence Option C is correct

27. Ans. B.

All the others occur at odd places except V which occurs at even place. Thus V does not belong to the group.

8	W
7	Q
6	V
5	P
4	Т
3	R
2	U
1	S

Hence Option B is correct

28. Ans. E.

The solution to the above puzzle is:

4 persons that is V, P, T and R live between Q and U.

8	W
7	Q
6	V
5	P
4	Т
3	R
2	U
1	S

Hence Option E is correct

29. Ans. B.

From I,

Is=7, energy/ good = 6/3.

So I alone is not sufficient

From II,

Mistakes/are=1/4, good=6.

So II alone is sufficient to answer the question.

30. Ans. D.

Neither Statement I or II alone are sufficient to answer the question.

Description: Since from statement I we cannot get clearly that the clear picture of seating of C and B. From statement II also we cannot get identify where A, B, C, D, and E are seating. Thus both I and II statement are insufficient to answer.

31. Ans. B.

From I:

D>X=P and S>R, D>R.. R can be shorter or taller than P or X. So, from statement I we can not decide who is shortest.

From II:

X=P>R, D>X=P, S>X=P thus it is clear that R is shortest.

Hence, data in statement II alone is sufficient to answer the question.

32. Ans. E.

From statement I- The number of students of class are 21, 22, 23, 24, 25 or 26.

From statement II- The number of students in the class are 25 or 30.

From both the statements, there are 25 students in the class.

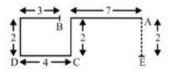
Hence, option E is correct.

33. Ans. D.

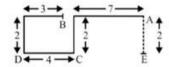
R E C O V E R E D 18 5 3 15 22 5 18 5 4

There are four such pairs

34. Ans. B.

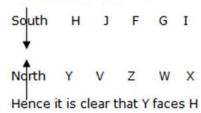


35. Ans. D.



36. Ans. A.

Arrangement will be as



37. Ans. D.

Arrangement will be as



As F sits in the Middle of Row 2, its exactly left will be G

Hence option D is correct

38. Ans. C.

Arrangement will be as



W is in the Middle of the row
While all other four are sitting in the extreme corners
Hence option C is correct

39. Ans. C. Arrangement will be as



I faces X and third person to the right of I is J Hence option C is correct

40. Ans. B.

Arrangement will be as

An immediate neighbour of V is Z who faces F Hence option B is correct

41. Ans. C. I. X=7.8 II. y=+8 Remember that if $y^2=64$ then y=+8 and -8 but if $Y=\sqrt{64}$ then y will only be +8

42. Ans. C.
I.
$$X = \overline{3}$$

II. $y = 6, -3$
Hence answer=(c) $x \le y$

43. Ans. E.
I. x=3,-2
II. Y=2, 4
Hence answer=(e)

44. Ans. C.

$$x^2 - 11x - 80 = 0$$

 $x^2 - 16x + 5x - 80 = 0$
 $x (x-16) + 5 (x-16) = 0$
 $(x+5) (x-16) = 0$
 $x=+16, -5$
 $y^2 + 9y - 52 = 0$
 $y^2 + 13y - 4y - 52 = 0$
 $y (y+13) - 4 (y+13) = 0$
 $(y-4) (y+13) = 0$
 $y=+4, -13$

Therefore, relationship between x and y can't be determined.

45. Ans. A. 4x²+12x+9=0

 $4x^2+6x+6x+9=0$

2x(2x+3)+3(2x+3)=0

(2x+3)(2x+3)=0

2x+3=0 or 2x+3=0

2x = -3 or 2x = -3

$$x = -\frac{3}{2}$$
 or $x = -\frac{3}{2}$

y(2y+7)+4y+14=0y(2y+7)+2(2y+7)=0

(2y+7)(y+2)=0

2y+7=0 or y+2=0

2y = -7 or y = -2

$$y = -\frac{7}{2}$$
 or $y = -2$

y=-3.5 or y=-2

46. Ans. B.

$$? = 11^2 + 4^3 \times 4$$

$$? = 377 \approx 376$$

47. Ans. C.

$$423.62 - 269.89 \div (11.9\% \text{ of } 74.98) = ?$$

$$423.62 - 269.89 \div (12\% \text{ of } 75) = ?$$

$$\Rightarrow 424 - 269 \div 9 = ?$$

$$\Rightarrow 424 - 30 = ?$$

$$\Rightarrow$$
 ?= 394 \approx 395

48. Ans. C.

$$23 \times 15 - 60 + ? \div 31 = 292$$

$$345 - 60 + ? \times \frac{1}{31} = 292$$

$$285 + ? \times \frac{1}{31} = 292$$

$$? = 31 \times 7$$

$$? = 217.$$

49. Ans. C.

By taking approximate values

$$151 - 119 \div 17 - ?^2 = 80$$

$$144 - ?^2 = 80$$

$$2^2 = 64$$

$$? = 8$$
.

50. Ans. A.

$$? \div 4 + 5 \times 9 = 132$$

$$\frac{?}{4} = 87$$

$$? = 348.$$

51. Ans. C.

Sony: 0.5/7.5×100=6.66% Microsoft: 2/10×100=20% Nintendo: 7/9×100=77.77% Mitashi: 3/10×100=30%

ROG: 3/8×100=37.5%

52. Ans. D.

Sony: 0.5/7.5×100=6.66% Microsoft: 2/10×100=20% Nintendo: 7/9×100=77.77% Mitashi: 3/10×100=30% ROG: 3/8×100=37.5%

53. Ans. C.

Total sale in 2016-2017= 8+12+16+13+11=60(in thousands)=60,000

Total sale in 2017-2018= 7.5+10+9+10+8=44.5(in

thousands)=44,500

Absolute change or Difference =60,000-

44,500=15,500

54. Ans. D.

Combined sale of Sony and Nintendo in 2016-2017= 7.5+9=16.5

Combined sale of Sony and Nintendo in 2017-2018= 8+16=24

Percentage increase=7.5/16.5×100=45.45%

55. Ans. C.

Total sale of Microsoft= 12+10=22(in thousands) = 22,000

Total sale of ROG= 11+8=19(in thousands) =19,000

Difference=22,000-19,000=3,000

56. Ans. B.

Appeared students from institute D in 2013 = 1765 Qualified students from institute D in 2013 = 1567 % of qualified students over appeared students

% of qualified students over appeared students from institute D in 2013 =
$$\frac{1567}{1765}$$
 x 100 = 88.78%

Appeared students from institute D in 2014 = 1574 Qualified students from institute D in 2014 = 1024 % of qualified students over appeared students

from institute D in 2014 =
$$\frac{1024}{1574}$$
 x 100 = 65.06%

Appeared students from institute D in 2015 = 1754 Qualified students from institute D in 2015 = 1210 % of qualified students over appeared students

from institute D in 2015 =
$$\frac{1210}{1754}$$
 x 100 = 68.98%

Appeared students from institute D in 2016 = 1364 Qualified students from institute D in 2016 = 1145% of qualified students over appeared students

from institute D in 2016 =
$$\frac{1145}{1364}$$
 x 100 = 83.94%

Appeared students from institute D in 2017 = 1510Qualified students from institute D in 2017 = 1214 % of qualified students over appeared students from institute D in 2017 = $\frac{1214}{1510}$ x 100 = 80.39%

Hence, the lowest percentage of institute D is in 2014.

57. Ans. D.

Qualified students from all the institutes in 2017 =

Appeared students from all the students in 2017 = 7984

Required percentage = $\frac{6840}{7984} \times 100 = 86\%$

58. Ans. E.

Appeared students from institute B in 2014 = 1654 Qualified students from institute B in 2014 = 1566 Not qualified students from institute B in 2014 = 1654 - 1566 = 88

Appeared students from institute B in 2016 = 1440 Qualified students from institute B in 2016 = 1165 Not qualified students from institute B in 2016 = 1440 - 1165 = 275

Required difference = 275 - 88 = 187

59. Ans. C. Required value =
$$\frac{1530+1886+1806+1478+1645}{5}$$
 =

1669

60. Ans. A.

Required percentage =
$$\frac{7072}{8460}$$
 x 100 = 83.59%

61. Ans. E.

Average weight of 17 students = 90 kg Let, the weight of teacher be x So, the average weight is increased by 200 grams

Therefore,
$$\frac{(17\times90)+x}{18} = 90 + \frac{200}{1000}$$

$$\frac{1530 + x}{18} = 90.2$$

$$1530 + x = 1623.6$$

$$x = 1623.6 - 1530 = 93.6$$
kgs

Therefore, the weight of the teacher = 93.6 kgsSo option (e) is the correct answer.

62. Ans. A.

Speed downstream = 8 + 2 = 10 kmph Speed upstream = 8 - 2 = 6 kmph

Let the required distance be d km.

Then,
$$\frac{d}{10} + \frac{d}{6} = 2$$
; 6d + 10d = 120
16d = 120; d = 7.5 km

63. Ans. C.

Let the sum be Rs. P.

$$S.I. = Rs. (900 - P)$$

So,
$$\frac{P \times 10 \times 5}{100} = 900 - P$$

$$50 P = 90000 - 100P$$

$$P = Rs. 600$$

Now, P = 600, R = 15%, T =
$$\frac{5}{2}$$
 years

S.I. =
$$\frac{600 \times 15 \times 5}{100 \times 2}$$
 = Rs. 225

Hence, amount = 600 + 225 = Rs. 825

64. Ans. E.

Profit ratio of A,B and C,

$$A : B : C = (10,000 \times 12) : (7500 \times 12) : (10,000 \times 12) : (1$$

$$9) = 4:3:3$$

Hence, B's share =
$$(3/10) \times 12000 = Rs. 3600$$

65. Ans. B.

Let Rubina's monthly salary = xAccording to question,

$$X = \frac{6367 \times 100 \times 100}{75 \times 16}$$
65670000

$$x = \frac{65670000}{1200} = Rs.54725$$

66. Ans. C.

Let capacity of tank = 60 units
Efficiency of A =
$$\frac{60}{12}$$
 = 5 units/hour

Efficiency of B =
$$\frac{60}{15}$$
 = 4 units/hour

Efficiency of C =
$$\frac{60}{6}$$
 = - 10 units/hour

Efficiency of A and B together = 5 + 4 = 9units/hour

Tank filled in 5 hours = $9 \times 5 = 45$ units

Efficiency of A, B and C together = 5 + 4 - 10 = -1unit/hour

Hence, time taken to empty the tank= $\frac{45}{1}$ = 45

hours

67. Ans. C.

Let the present age of the man and his son be x and y respectively

So,

$$x - 5 = 4(y-5) + 3$$

$$x - 4y = -12(i)$$

Again

$$X+3 = 3(y+3) - 6$$

$$x - 3y = 0$$
 (ii)

By solving, we get

X = 36, y = 12

Sum of their ages = 48

Hence after 16 years the sum of their ages will be 80 years.

68. Ans. E.

Let the incomes of Ram and Sham be 5x and 4x respectively.

Now,

$$(5x-1200)/(4x-1200) = 3/2$$

x = 600

Income of Ram = 5x = 3000

69. Ans. A.

Let total work = 36 units (LCM of 12 and 18) Efficiency of A = $\frac{36}{12}$ = 3 units/day

Efficiency of B = $\frac{36}{18}$ = 2 units/day

1 day work of A and B together = 3 + 2 = 5units/day

Last 2 days' work of $B = 2 \times 2 = 4$ units

Hence, rest work compelted together = 36 - 4 = 32

Hence, days the rest work is completed by A and B $=\frac{32}{5}$ days

So, total days =
$$2 + \frac{32}{5} = \frac{42}{5}$$
 days

70. Ans. E.

Relative speed = 50 + 40 = 90 km/h = $90 \times \frac{5}{18}$ =

25 m/sec

Distance covered = 750 + 750 = 1500 meters Required time = $\frac{1500}{25}$ = 60 seconds

71. Ans. A.

$$8 \times 1 + 1 = 9$$

 $9 \times 1.5 + 1.5 = 15$

$$15 \times 2 + 2 = 32$$

$$32 \times 2.5 + 2.5 = 82.5$$

$$82.5 \times 3 + 3 = 250.5$$

72. Ans. A.

$$2 + 1^3 + 2 = 5$$

$$5 + 2^3 - 4 = 9$$

$$9 + 3^3 + 6 = 42$$

$$42 + 4^3 - 8 = 98$$

$$98 + 5^3 + 10 = 233$$

73. Ans. B.

$$100 \times 1 = 100$$

$$100 \times 1 = 100$$

 $100 \times 0.5 = 50$

$$50 \times 0.25 = 12.5$$

$$12.5 \times 0.125 = 1.5625$$

74. Ans. A.

$$12 \times 1.5 + 2 = 20$$

$$20 \times 1.5 + 4 = 34$$

$$34 \times 1.5 + 6 = 57$$

$$57 \times 1.5 + 8 = 93.5$$

75. Ans. D.

$$1023 - 36 = 987$$

$$987 - 72 = 915$$

$$915 - 108 = 807$$

$$807 - 144 = 663$$

76. Ans. D.

Both the statements individually do not answer the question.

Combining statement 1 & 2:

The train takes 2 seconds to cross 50m distance.

Therefore, speed of the train = 50/2 = 25m/s And, length of the train = 25 * 5 = 125 m.

Hence, option is 4.

77. Ans. A.

3/4th work in 6 hours. Total work can be completed in 8 hours.

From statement 1:

$$1/a + 1/b = 1/8$$

$$\Rightarrow 1/b = 1/10$$

Therefore, A finishes the work in 40 hours.

Statement 2 alone is not sufficient.

Hence, option is 1.

78. Ans. D.

From I,
$$Pravin = Aman + 1200$$

From II and III,
$$\frac{Aman}{Vimal} = \frac{5}{3}$$

$$\frac{Aman}{Aman - 1000} = \frac{5}{3}$$

: All statements are necessary to get the monthly salary of Pravin.

79. Ans. D.

From statement I:

SP = Selling Price

MP = Marked Price

CP = Cost price

SP = 90% MP

SP = 9MP/10

From statement II:

When no discount is given,

SP = MP

Profit = SP - CP

35 = (SP - CP) *100/CP

35CP = 100SP - 100CP

135CP = 100SP

CP = 100SP/135

CP = 100MP/135

From both I and II:

Profit% = (9MP/10 - 100MP/135)*100 /

(100MP/135) %

= (9/10 - 100/135) * 135 %

Hence, both the statements are required to answer this question

80. Ans. D.

From I. There are 11 students in the class.

From II. The average age of students and class teacher is 14 years.

From III. The average age of class teacher is 3 years more than that of students.

Now, combining all there statements, we have Average age of (students + teacher) = $14 \times 12 = 168$ years

Average age of 11 students = 14 - 3 = 11 years Total age of 11 students = $11 \times 11 = 121$ years Teacher's age = 168 - 121 = 47 years.

This requires all statements to complete the calculations.



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