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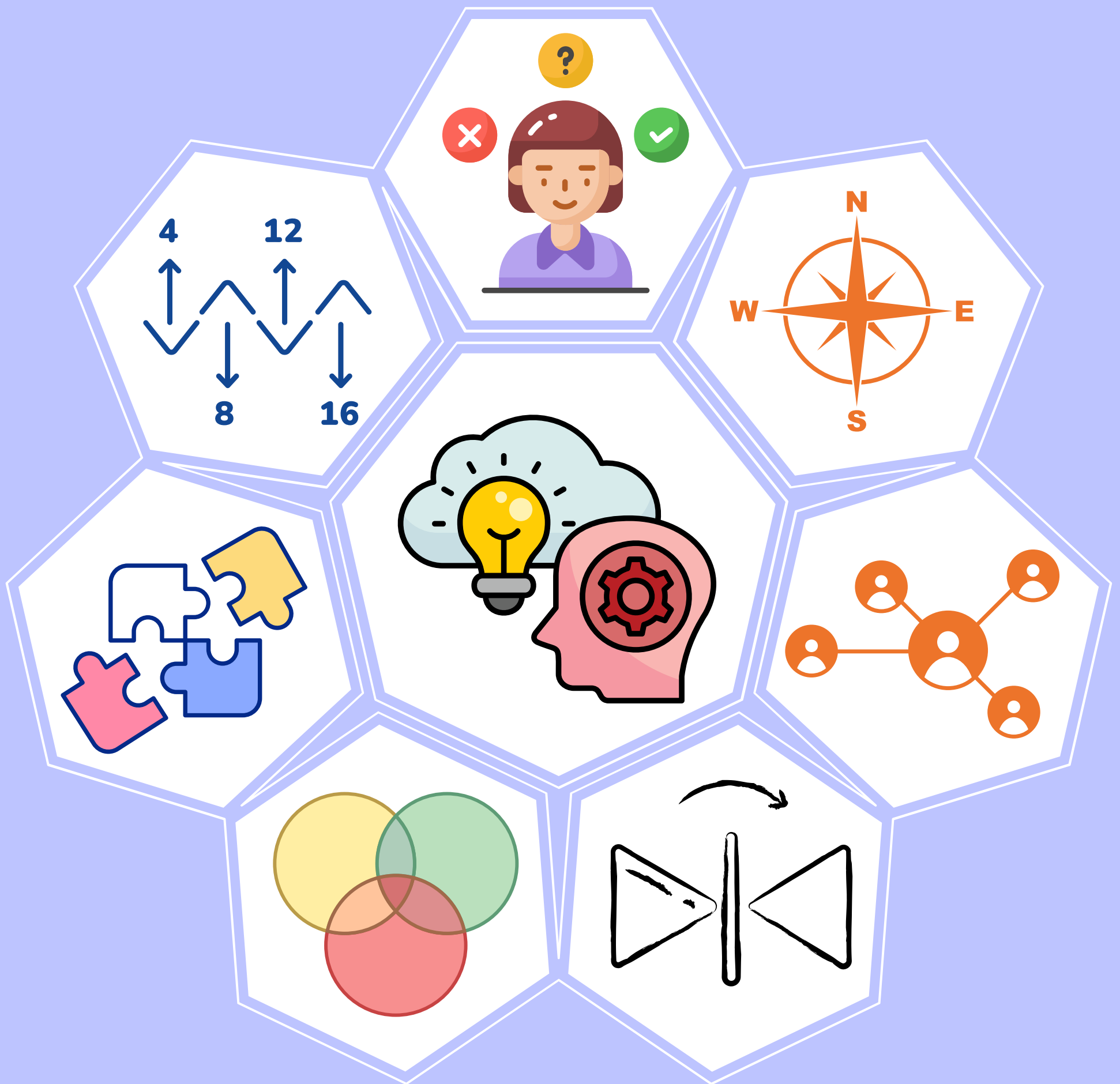


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# Logical Reasoning & Mental Ability Question Bank



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## Statement and Assumptions

## Statement and Arguments

## Statement and Conclusion

## Statement and Course of Action

1. A statement is followed by three arguments numbered 1, 2, 3. Choose which of the argument (s) is/are strong argument(s)?

**Statement :** Should admission to all professional courses be made on the basis of past academic performance rather than through entrance tests?

**Arguments :**

- Yes. It will be beneficial for those candidates who are unable to bear the expenses of entrance tests.
- Yes. Many deserving candidates securing high marks in their qualifying academic examinations do not perform well on such entrance tests.
- No. The standard of examinations and assessment conducted by different Boards and universities are not comparable and hence there is a need to conduct entrance tests to calibrate them on a common yardstick.

**Code:**

- Only 1 and 2 are strong
- Only 2 and 3 are strong
- Only 1 and 3 are strong
- Only 3 is strong
- Question not attempted

**Ans (D)****Explanation :-**

Analyzing the given arguments

→ **False** (this alone may not be a strong enough reason to entirely replace entrance tests, as it doesn't address the core issue of assessing merit and suitability for professional courses.)

→ **False** (it points out that some students may perform better in a continuous assessment (such as their academic performance) rather than a one-time exam like an entrance test. However, academic performance alone may not fully reflect a candidate's aptitude for a professional course, which entrance exams often aim to measure.)

→ **True** (This argument is valid as it addresses the issue of varying standards across different educational boards and the need for a common evaluation method).

So, Argument III strengthens the statement more effectively than Arguments I and II. Hence, the correct answer is "**Option D**".

2. A statement is followed by four arguments numbered 1, 2, 3 & 4. Choose which of the argument (s) is/are strong argument(s)?

**Statement :** Should the rule of wearing a helmet for both driver and pillion rider while driving a motorcycle be enforced strictly?

**Arguments : -**

- No, each individual knows how to protect his own life and it should be left to his discretion.
- Yes, it is a rule and rules should be followed
- Yes, it is a necessity as the head is the most sensitive/controlling organ, it should be protected by the helmet.
- No, it does not ensure safety of the head.

**Code:**

- None is strong
- Only 1 and 4 are strong
- Only 2 and 3 are strong
- Only 1 and 3 are strong
- Question Not Attempted

**Ans (C)****Explanation :-**



Number /Letter sequences

1. Study the following sequence and carefully answer the questions that follow:

& ( 8 2 F 4 8 H % # & < % 6 J 5 # ! 2)

How many such numbers are there in the above sequence that are immediately followed by a symbol and also immediately preceded by a letter?

- (A) 1
- (B) 0
- (C) 3
- (D) 2
- (E) Question not attempted

Ans (A)

Explanation:

There is a total of 19 terms in the above arrangement. Out of these terms, there is a total of 7 numbers and the rest are alphabets or symbols. Here we have to find out those numbers that are followed by a symbol and which follow a letter. In the above sequence, 5 is followed by a symbol and preceded by a letter or an alphabet. None of the other numbers follows this kind of rule so the answer is 1. Therefore, the correct option is A) 1.

2. The missing letter of the series O, R, U, \_\_\_ is:

- (A) V
- (B) W
- (C) X
- (D) Y
- (E) Question not attempted

Ans (C)

Explanation

If you take a look at the table, you will see that the letter O corresponds to number 15 and the letter R to the number 18. Similarly, you will notice that the letter U corresponds to the number 21. Therefore the missing alphabet should be X which corresponds to the number 24 as per the rule of the sequence that is move with +3. Hence the correct option is c) X.

3. The missing letter of the series A, E, J, \_\_\_ is:

- (A) Q
- (B) M
- (C) P
- (D) N
- (E) Question not attempted

Ans (C)

Explanation

Letters are moving with +4 ,+5 ,and then +6  
A(1)+4=5=E, E(5)+5=10=J, J(10)+6=16=P

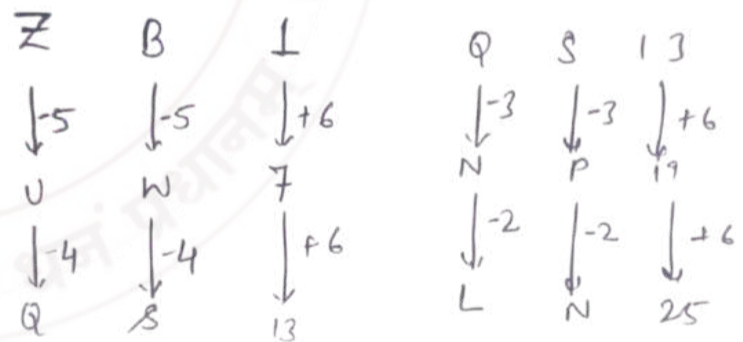
4. Choose one option from the given options that can replace the question mark (?) to complete the following series. ZB1 UW7 QS13 NP19 ?

- (A) KM24
- (B) LN25
- (C) JL25
- (D) LM26
- (E) Question not attempted

Answer (B)

Explanation:-

The logic followed here is :



Hence the correct answer is Option (B) LN25.

5. The missing number of the series 7 21 49 105 \_\_\_ is:

- (A) 218
- (B) 279
- (C) 217
- (D) 278
- (E) Question not attempted

Ans (C)

Explanation:-

The sequence of the series is 7\*2+7=21, 21\*2+7=49, 49\*2+7=105, 105\*2+7=217.

Another method is 7\*1, 7\*3, 7\*7, 7\*15, 7\*31 so this

**Coding Decoding**

1. In certain code 'FROZEN' is written as 'OFAPSG'. Then how would 'MOLTEN' be written in that code?

- (A) OFPOMN
- (B) OFSMPN
- (C) OFUMPN
- (D) OFUNPM
- (E) OFUMON

**Ans (C)**

**Explanation:-**

Reverse the word and move each letter +1. Reverse of MOLTEN is NETLOM, add 1 to each letter of NETLOM. So code of MOLTEN become OFUMPN.

2. In a certain code language RUSSIA is written as 931191. How is BRAZIL written in that code?

- (A) 291783
- (B) 281793
- (C) 281893
- (D) 291893
- (E) Question not attempted

**Ans (D)**

**Explanation:-**

Here we have to find a pattern or logic to get the answer

RUSSIA

$$R=18=1+8=9$$

$$U=21=2+1=3$$

$$S=19=1+9=10=1+0=1$$

$$S=19=1+9=10=1+0=1$$

$$I=9$$

$$A=1$$

BRAZIL

$$B=2$$

$$R=18=1+8=9$$

$$A=1$$

$$Z=26=2+6=8$$

$$I=9$$

$$L=12=1+2=3$$

So the answer will be 291893

3. If in a certain system of code, the number 943 is coded as 27129. Then what will be the code for 12345 in this system of coding?

- (A) 86863
- (B) 2837637
- (C) 3691215
- (D) 46728
- (E) Question not attempted

**Ans (C)**

**Explanation:-**

A hint here is that the number of digits is different. The first two digits of the second number i.e. 27 can be got from 9 by multiplying it with 3. If we multiply 4 by 3 we get 12 and similarly if we multiply 3 by 3 we get 9. So the number we get is 27129 which is the required number.

So let us see what we get when we use this code for 12345.

1, when multiplied with 3, will give 3.

2, when multiplied by 3, will yield 6.

Similarly, 3 will yield 9

And 4 will yield 12 and 5 will give 15.

Thus the number that we will get from this will be 3691215 and the answer is C)

4. In a certain code language DEER is written as 12215. How is HEEL written in that code?

- (A) 4229
- (B) 5228
- (C) 5229
- (D) 4228
- (E) Question not attempted

**Ans (C)**

**Explanation:**

Here we have to find a pattern or logic to get the answer

$$D=4-3=1 \quad H=8-3=5$$

$$E=5-3=2 \quad E=5-3=2$$

$$E=5-3=2 \quad E=5-3=2$$

$$R=18-3=15 \quad L=12-3=9$$

So the answer is option (C)



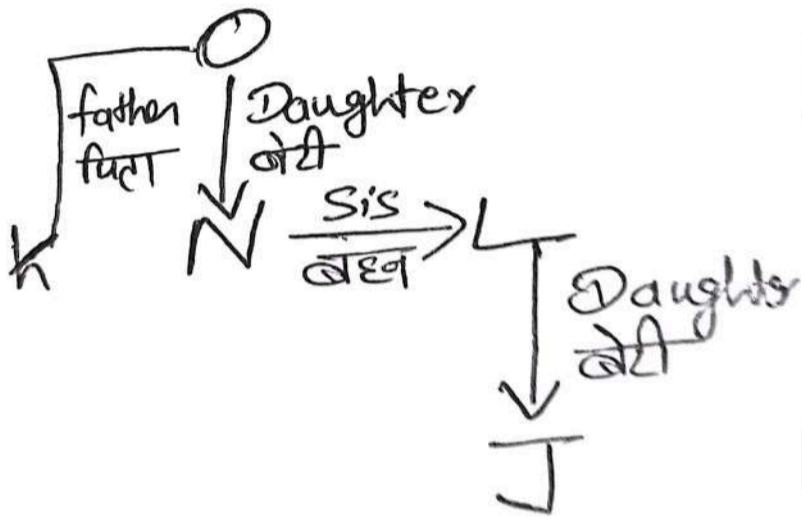
## Problems related to relations

1. If P3Q means P is daughter of Q, P5Q means P is father of Q. P7Q means P is mother of Q and P9Q means P is sister of Q. Then how is J related to K if J3L9N3O5K?

- (A) Mother
- (B) Wife
- (C) Niece
- (D) Daughter
- (E) Question not attempted

Ans: (C)

Explanation



J is the daughter of L.

L is the sister of N, meaning N is L's sibling (brother or sister).

N is the daughter of O, making O the parent of both N and L.

O is the father of K, meaning K is a child of O and the sibling of N.

Since L and N are siblings, and N and K are siblings, this makes L the sibling of K as well.

Therefore, J (who is L's daughter) is K's niece.

2. If 'P\$Q', means 'P is father of Q', 'P#Q' means 'P is mother of Q', 'P\*Q' means 'P is sister of Q', then how is D related to N in N#A\$B\*D?

- (A) Nephew
- (B) Grandson
- (C) Granddaughter
- (D) Grandchild
- (E) cannot be determined

Ans: (D)

Explanation:-

N is the mother of A.

A is the father of B, meaning B is the child of A and, therefore, the grandchild of N.

B is the sister of D, meaning D is also a child of A.

Since A is the father of both B and D, and N is the mother of A, D is the grandchild of N.

Thus, D is the grandchild of N.

3. Saksham introduced Nidhi to his friend, "She is the daughter of the Only son of my father's wife." How is Saksham related to Nidhi?/

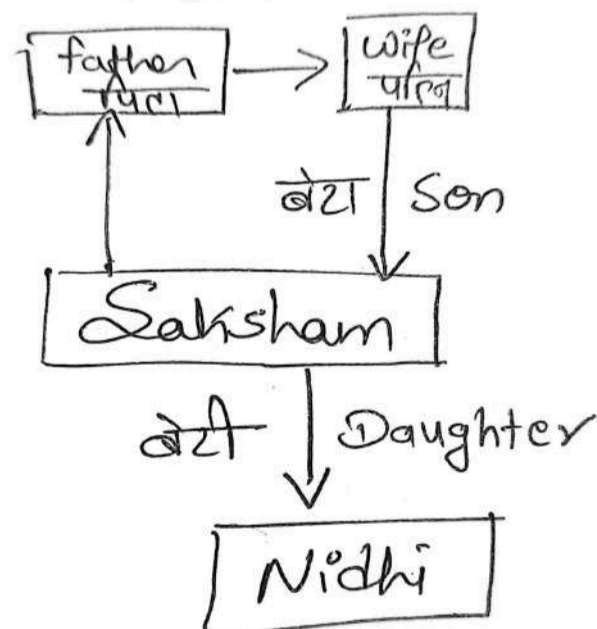
- (A) Son
- (B) Cousin
- (C) Father
- (D) Brother
- (E) Question not attempted

Ans (C)

Explanation:-

Saksham's statement clearly indicates that "my father's wife" refers to his mother. "The Only son of my father's wife" means Saksham himself. Therefore, Nidhi is Saksham's daughter.

Thus, Saksham is Nidhi's father.



4. Manoj is the brother of Deepak. Rekha is the sister of Seema. Deepak is the son of Rekha. How is Manoj related to Seema?

- (A) Nephew
- (B) Son
- (C) Brother
- (D) Daughter
- (E) Question not attempted

**Direction Sense test**

1. One morning after sunrise, Suresh was standing facing a pole. The shadow of the pole fell exactly to his right. To which direction was he facing?

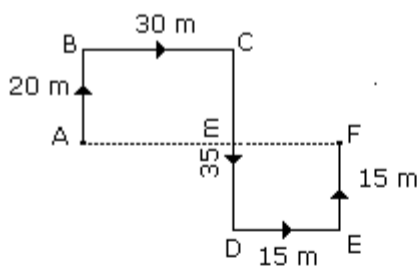
- (A) North
- (B) South
- (C) East
- (D) West
- (E) Question not attempted

**Ans (B)****Explanation:-**

Sun rises in the east in the morning. Since the shadow of Suresh falls to his right. So he is facing South.

2. Rasik walked 20 m towards north. Then he turned right and walks 30 m. Then he turns right and walks 35 m. Then he turns left and walks 15 m. Finally he turns left and walks 15 m. In which direction and how many metres is he from the starting position?

- (A) 15 m West
- (B) 30 m East
- (C) 30 m West
- (D) 45 m East
- (E) Question not attempted

**Ans:(D)****Explanation:-**

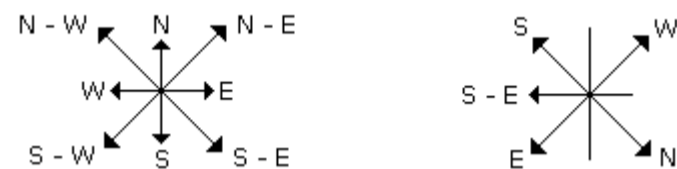
$$\begin{aligned} \text{Required distance} &= AF \\ &= 30 + 15 \\ &= 45 \text{ m.} \end{aligned}$$

From the above diagram, F is in East direction from A.

Hence the required answer is '45 m East'.

3. If South-East becomes North, North-East becomes West and so on. What will West become?

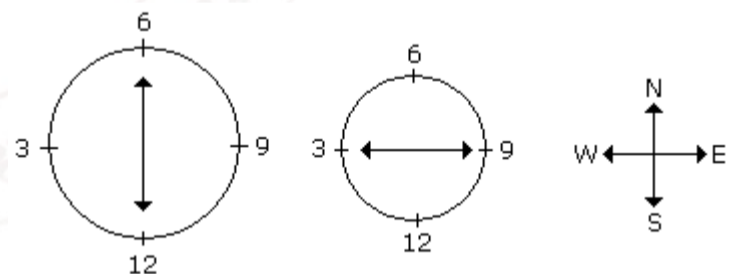
- (A) North-East
- (B) North-West
- (C) South-East
- (D) South-West
- (E) Question not attempted

**Ans (C)****Explanation:-**

It is clear from the diagrams that new name of West will become South-East.

4. Rahul put his timepiece on the table in such a way that at 6 P.M. hour hand points to North. In which direction the minute hand will point at 9.15 P.M. ?

- (A) South-East
- (B) South
- (C) North
- (D) West
- (E) Question not attempted

**Ans (D)****Explanation:-**

At 9.15 P.M., the minute hand will point towards west.

5. Two cars start from the opposite places of a main road, 150 km apart. First car runs for 25 km and takes a right turn and then runs 15 km. It then turns left and then runs for another 25 km and then takes the direction back to reach the main road. In the meantime, due to minor break down the other car has run Only 35 km along the main road. What would be the distance between two cars at this point?

- (A) 65 km
- (B) 75 km
- (C) 80 km
- (D) 85 km



Logical venn Diagram

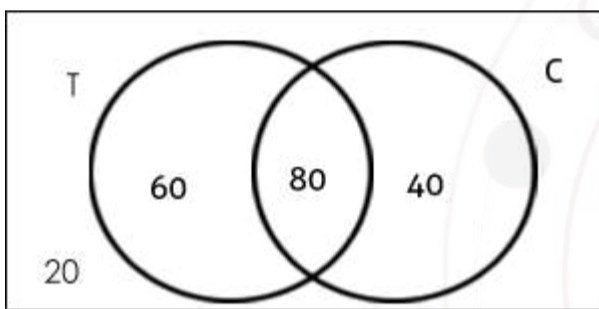
1. In a college, 200 students are randomly selected. 140 like tea, 120 like coffee and 80 like both tea and coffee. How many students like neither tea nor coffee?

- (A) 1
- (B) 2
- (C) 10
- (D) 20
- (E) Question not attempted

Ans: (D)

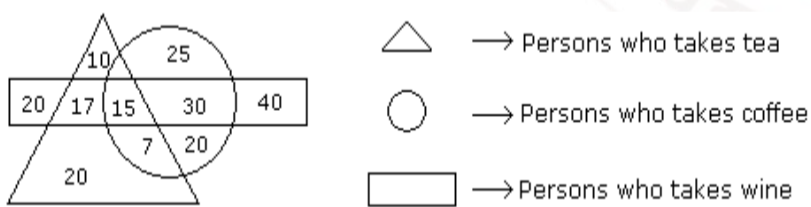
Explanation

The given information may be represented by the following Venn diagram, where T = tea and C = coffee.



Number of students who like neither tea nor coffee = 20.

2. Study the diagram given below and answer each of the following questions.



How many people are there, who drink Only coffee ?

- (A) 90
- (B) 45
- (C) 20
- (D) 25
- (E) Question not attempted

Ans: (B)

Explanation

We need to add Only that part of the circle that doesn't overlap with anything else (20+25 = 45).

3. Which of the following diagrams indicates the best relation between Travelers, Train and Bus ?

- (A)
- (B)
- (C)
- (D)
- (E) Question not attempted

Ans: (C)

Explanation

Travelers could be both in train and bus but train couldn't be bus. Train and bus are used for travelling so travelers can travel in bus and train but bus and train can't be into each other.

4. Which of the following combination of words best represents the venn diagram given below?



- (A) Judge, Thieves and Criminals
- (B) India, Haryana and World
- (C) Hockey, Football and Cricket
- (D) Bulb, Lamp and Light
- (E) Question not attempted

Ans: (A)

Explanation

Vein diagram for option B is



Vein diagram for option C is



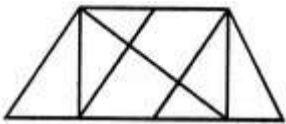
Vein diagram for option D is





Shapes and their sub sections

1. Find the number of triangles in the given figure.

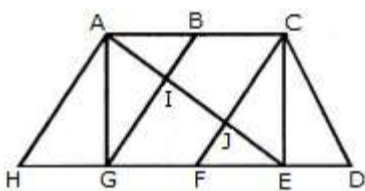


- (A) 8
- (B) 10
- (C) 12
- (D) 14
- (E) Question not attempted

Ans :(D)

Explanation:

The figure may be labelled as shown.



The simplest triangles are AHG, AIG, AIB, JFE, CJE and CED i.e. 6 in number.

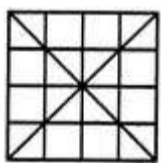
The triangles composed of two components each are ABG, CFE, ACJ and EGI i.e. 4 in number.

The triangles composed of three components each are ACE, AGE and CFD i.e. 3 in number.

There is Only one triangle i.e. AHE composed of four components.

Therefore, There are  $6 + 4 + 3 + 1 = 14$  triangles in the given figure.

2. Find the number of triangles in the given figure.

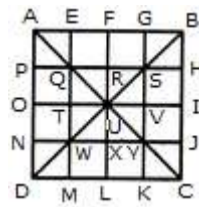


- (A) 36
- (B) 40
- (C) 44
- (D) 48
- (E) Question not attempted

Ans :(D)

Explanation:

The figure may be labelled as shown.



The simplest triangles are APQ, AEQ, QTU, QRU, BGS, BHS, RSU, SUV, TUW, UWX, NWD, WDM, UVY, UXY, JCY and YKC i.e. 16 in number.

The triangles composed of two components each are QUW, QSU, SYU and UWY i.e. 4 in number.

The triangles composed of three components each are AOU, AFU, FBU, BIU, UIC, ULC, ULD and OUD i.e. 8 in number.

The triangles composed of four components each are QYW, QSW, QSY and SYW i.e. 4 in number.

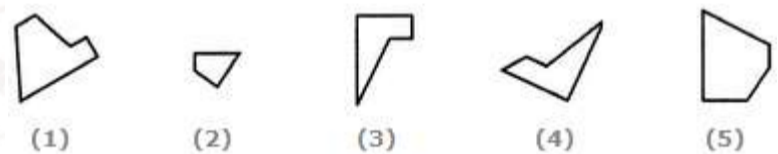
The triangles composed of six components each are AUD, ABU, BUC and DUC i.e. 4 in number.

The triangles composed of seven components each are QMC, ANY, EBW, PSD, CQH, AGY, DSK and BJW i.e. 8 in number.

The triangles composed of twelve components each are ABD, ABC, BCD and ACD i.e. 4 in number.

Thus, there are  $16 + 4 + 8 + 4 + 4 + 8 + 4 = 48$  triangles in the figure.

3. Select the alternative which represents three out of the five alternative figures which when fitted into each other would form a complete square.



- (A) 1,4,5
- (B) 2,4,5
- (C) 1,2,3
- (D) 2,3,4
- (E) Question not attempted

Ans :(B)

Explanation:

From images 2,4,5 we will get this figure

