LOGICAL REASONING

1. In certain language, “EXAM” is coded as “FYBN”. In the same language, how will “RESULT” be coded?
   A) SFTVMU B) REPTUY
   C) ERIART D) KLBROW
   Answer: A) SFTVMU
   Explanation:
   The first step is to detect the code. For that, we need to focus on the word EXAM. The first letter E in code is F, similarly the code for X is Y, for A it is B and for M it is N. Thus we see that in this language the alphabet is shifted to one step to the front. Thus the code for R will be S, E will be F, and so on.

2. In a certain code language COMPUTER is written as RFUVQNPC. How will MEDICINE be written in that code language?
   A) MFEDJJOE B) EOJDEJFM
   C) MFEJDJOE D) EOJDJEFM
   Answer: D) EOJDJEFM
   Explanation:
   - There are 8 letters in the word.
   - The coded word can be obtained by taking the immediately following letters of word, expect the first and the last letters of the given word but in the reverse order. That means, in the coded form the first and the last letters have been interchanged while the remaining letters are coded by taking their immediate next letters in the reverse order.

3. If in a certain language KINDLE is coded as ELDNIK, how is EXOTIC coded in that code?
   A) EOXITC B) CITOXE
   C) COXITE D) CXOTIE
   Answer: B) CITOXE
   Explanation: The letters of the word are written in a reverse order to obtain the code.

4. According to a military code, SYSTEM is SYSMET and NEARER is AENRER. What is the code for FRACTION?
   A) CARFNOIT B) CARFTION
   C) CARFNOIT D) ARFCNOIT
   Answer: A) CARFNOIT
   Explanation:
   The letters in the first half and the latter half of the word are separately reversed to obtain the code.

5. If PALE is coded as 2134, EARTH is coded as 41590, how is PEARL coded in that code?
   A) 25413 B) 24153
   C) 29530 D) 25430
   Answer: B) 24153

Explanation:
The alphabets are coded as shown:
P A L E R T H
2 1 3 4 5 9 0
So, P is coded as 2,
E as 4,
A as 1,
R as 5 and
L as 3.
Thus, the code for PEARL is 24153.

6. In a certain code, 15789 is written as AXBTC, 2346 is written as MPDU. How is 23549 written in that code?
A) MPXDT B) MPADC
C) MPXDC D) MPXCD
Answer: C) MPXDC
Explanation:
The numbers are coded as shown:

1	5	7	8	9	2	3	4	6
A	X	B	T	C	M	P	D	U

i.e., 2 as M,
3 as P,
5 as X,
4 as D and
9 as C.
So, 23549 is coded as MPXDC.

7. In a certain code, '289' means 'read from paper'; '276' means 'tea from field' and '85' means 'wall paper'. Which of the following is the code for 'paper'?
A) 2 B) 8 C) 6 D) 9
Answer: B) 8
Explanation:
In the first and second statements, the common digit is '2' and the common word is 'from'.
So, '2' is the code for 'from'.
In the first and third statements, the common code digit is '8' and the common word is 'paper'.
So, '8' is the code for 'paper'. As shown above, '8' is the code for 'paper'.

8. If Rain is called Water, Water is called Air, Air is called Cloud, Cloud is called Sky, Sky is called Sea, and Sea is called Road, where do the aeroplanes fly?
A) Water B) Road
C) Sea D) Cloud
Answer: C) Sea

Explanation:
As we can see here Rain is coded as Water, Water is coded as Air and so on.
Aeroplanes fly in Sky because as per given codes Sky is coded as Sea.

9. Pointing to a photograph of a boy Suresh said, "He is the son of the only son of my mother." How is Suresh related to that boy?
   A) Brother B) Uncle C) Cousin D) Father
   Answer: D) Father
   Explanation:
   The boy in the photograph is the only son of the son of Suresh's mother i.e., the son of Suresh. Hence, Suresh is the father of boy.

10. Introducing Sonia, Aamir says, "She is the wife of only nephew of only brother of my mother." How Sonia is related to Aamir?
    A) Wife B) Sister C) Sister in law D) Father
    Answer: A) Wife
    Explanation:
    Brother of mother means maternal uncle. Hence only nephew of Aamir's maternal uncle means Aamir himself. Therefore Sonia is the wife of Aamir.

11. If A is the brother of B; B is the sister of C; and C is the father of D, how D is related to A?
    A) Brother B) Sister
    C) Nephew D) cannot be determined
    Answer: D) Cannot be determined
    Explanation:
    If D is Male, the answer is Nephew.
    If D is Female, the answer is Niece.

    As the sex of D is not known, hence, the relation between D and A cannot be determined.

    Note: Niece - A daughter of one's brother or sister, or of one's brother-in-law or sister-in-law. Nephew - A son of one's brother or sister, or of one's brother-in-law or sister-in-law.

12. A is B's sister. C is B's mother. D is C's father. E is D's mother. Then, how is A related to D?
    A) Grandfather B) Grand Mother
    C) Daughter D) Grand Daughter
    Answer: D) Grand Daughter
    Explanation:
    A is the sister of B and B is the daughter of C.
    So, A is the daughter of C. Also, D is the father of C.
    So, A is the granddaughter of D.

13. 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

Answer: C) P - M + N x Q

Explanation:

P - M → P is the brother of M

M + N → M is the mother of N

N x Q → N is the sister of Q

Therefore, P is the maternal uncle of Q.

14. A man goes 3 kms East from point A and then takes a right turn from point B and move 4 kms to reach point C. What is the minimum distance between point A and point C?

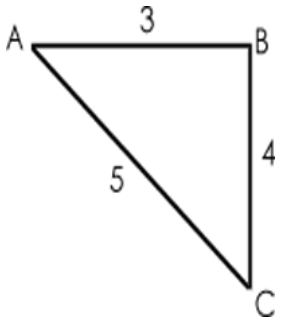
A) 5 B) 6 C) 7 D) 8

Answer: A) 5

Explanation

In order to find the minimum distance between these points, we use a little bit of geometry. We know that the minimum distance between these points will lie along the hypotenuse of the right-angled triangle formed by these points.

Now applying Pythagoras theorem, the distance between the starting point A and final point C is 5 kms i.e. the square root of the sum of squares of 3 and 4.



15. One morning Udai and Vishal were talking to each other face to face at a crossing. If Vishal's shadow was exactly to the left of Udai, which direction was Udai facing?

A) East B) West C) North D) South

Answer: C) North

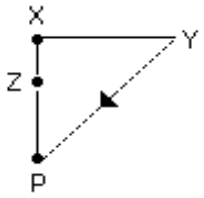
Explanation

16. Y is in the East of X which is in the North of Z. If P is in the South of Z, then in which direction of Y, is P?

A) North B) South C) South -East D) South-West

Answer: D) South-West

Explanation



P is in South-West of Y.

Directions (Q. 17 – 20): What value should come at the place of question mark in the following number series?

17. 1.5, 2.3, 3.1, 3.9, ?

A) 4.2 B) 4.4 C) 4.7 D) 5.1

Answer: C) 4.7

Explanation

In this simple addition series, each number increases by 0.8.

18. 14, 28, 20, 40, 32, 64,?

A) 52 B) 56 C) 96 D) 128

Answer: B) 56

Explanation

This is an alternating multiplication and subtracting series: First, multiply by 2 and then subtract 8.

19. 10, 15, 35, 82.5, ? , 562.5

A) 215 B) 210 C) 205 D)220

Answer: C) 205

Explanation

10 x 0.5 + 10 = 15

15 x 1 + 20 = 35

35 x 1.5 + 30 = 82.5

82.5 x 2 + 40 = 205

205 x 2.5 + 50 = 562.5

20. 11, 19, 65, 259, 1161, ?

A) 3081 B) 6021 C) 4421 D) 5041

Answer: B) 6021

Explanation

$11 \times 1 + 2^3 = 19$

$19 \times 2 + 3^3 = 65$

$65 \times 3 + 4^3 = 259$

$259 \times 4 + 5^3 = 1161$

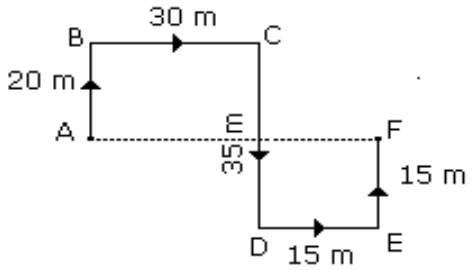
$1161 \times 5 + 6^3 = 6021$

21. Kumaran 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

Answer: D) 45 m East

Explanation



Required distance = AF

= 30 + 15

= 45 m.

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

Hence the required answer is '45 m East'.

Directions (Q. 22 – 25): Find the wrong term in the following number series.

22. 356, 354, 362, 386, 446, 566

A) 446 B) 566 C) 354 D) 386

Answer: C) 354

Explanation:

$356 + 1^3 - 1 = 356$

$356 + 2^3 - 2 = 362$

$362 + 3^3 - 3 = 386$

$386 + 4^3 - 4 = 446$

$446 + 5^3 - 5 = 566$

The wrong term is, 354

23. 22, 24, 32, 70, 168, 511

A) 168 B) 24 C) 70 D) 511

Answer: A) 168

Explanation:

22 * 1 + 2 = 24

24 * 1.5 - 4 = 32

32 * 2 + 6 = 70

70 * 2.5 – 8 = 167

167 * 3 + 10 = 511

The wrong term is, 168

24. 730, 366, 184, 92, 47.5, 24.75

A) 47.5 B) 366 C) 730 D) 92

Answer: D) 92

Explanation:

730 /2 + 1 = 366

366 /2 + 1 = 184

184 /2 + 1 = 93

93 /2 + 1 = 47.5

47.5 /2 + 1 = 24.75

The wrong term is, 92

25. 582, 762, 853, 897, 919.5

A) 582 B) 853 C) 762 D) 897

Answer: B) 853

Explanation:

582 762 **852** 897 919.5

180 90 45 22.5

÷2 ÷2 ÷2

The wrong term is 853

Directions (Q. 26 – 30): Look at this series carefully and find what will come in the place of Question Mark.

26. SCD, TEF, UGH, ? , WKL

A) CMN B) UJI C) VIJ D) IJT

Answer: C) VIJ

Explanation:

There are two alphabetical series here. The first series is with the first letters only: STUVW. The second series involves the remaining letters: CD, EF, GH, IJ, KL.

27. CMM, EOO, GQQ, ? , KUU

A) GRR B) GSS C) ISS D) ITT

Answer: C) ISS

Explanation:

The first letters are in alphabetical order with a letter skipped in between each segment: C, E, G, I, K. The second and third letters are repeated; they are also in order with a skipped letter: M, O, Q, S, U.

28. JAK, KBL, LCM, MDN, ?

A) OEP B) NEO C) MEN D) PFQ

Answer: B) NEO

Explanation:

This is an alternating series in alphabetical order. The middle letters follow the order ABCDE. The first and third letters are alphabetical beginning with J. The third letter is repeated as a first letter in each subsequent three-letter segment.

29. B_2CD, ? , BCD_4, B_5CD, BC_6D

A) B_2C_2D B) BC_3D C) B_2C_3D D) BCD_7

Answer: B) BC_3D

Explanation:

Because the letters are the same, concentrate on the number series, which is a simple 2, 3, 4, 5, 6 series, and follows each letter in order.

30. BCB, DED, FGF, HIH, ? .

A) JKJ B) HJH C) IJI D) JHJ

Answer: A) JKJ

Explanation:

This series consists of a simple alphabetical order with the first two letters of all segments: B, C, D, E, F, G, H, I, J, K. The third letter of each segment is a repetition of the first letter.

31. In a row of trees, one tree is fifth from either end of the row. How many trees are there in the row?

A. 8 B. 9 C. 10 D. 11

Answer: B. 9

Explanation:

Clearly, number of trees in the row = (4 + 1 + 4) = 9.

32. In a queue, Amrita is 10th from the front while Mukul is 25th from behind and Mamta is just in the middle of the two. If there be 50 persons in the queue, what position does Mamta occupy from the front ?

A) 20^{th} B) 19^{th} C. 18^{th} D. 17^{th}

Answer: C. 18^{th}

Explanation:

Number of persons between Amrita and Mukul = 50 -(10 + 25) = 15. Since Mamta lies in middle of these 15 persons,so Mamta's position is 8th from Amrita i.e. 18th from the front.

33. Raman ranks sixteenth from the top and forty ninth from the bottom in a class. How many students are there in the class ?

A) 64 B) 65 C) 66 D) 68

Answer: A) 64

Explanation:

Clearly, number of students in the class = (15 + 1 + 48) = 64.

34. If Atul finds that he is twelfth from the right in a line of boys and fourth from the left, how many boys should be added to the line such that there are 28 boys in the line ?

A) 12 B) 13 C) 14 D) 20

Answer: B) 13

Explanation:

Clearly, number of boys in the line = (11 + 1 + 3) = 15.

Number of boys to be added = 28 - 15 = 13.

35. Manisha ranked sixteenth from the top and twenty ninth from the bottom among those who passed an examination. Six boys did not participate in the competition and five failed in it. How many boys were there in the class?

A) 40 B) 44 C) 50 D) 55

Answer: D) 55

Explanation:

Number of boys who passed = (15 + 1 + 28) = 44.

Total number of boys in the class = 44 + 6 + 5 = 55.