

MAH-CET - 2021

Solved Paper

1) - In the following question, select the related number from the given alternatives.

ACOUSTIC : 91 :: RENOUNCE : ?

Options:

- 1) 95
- 2) 99
- 3) 105
- 4) 109
- 5) 100

Answer: 1

Solution: RENOUNCE = $18+5+14+15+21+14+3+5 = 95$

2)- In the following questions, one part of the sentence may have an error. Find out which part of the sentence has an error and click the button corresponding to it. If the sentence is free from error, select the "No error" option.

The General Manager of the industry has felt (A)/ that there is no use of (B)/ discussing about the problems with the labourers. (C)/No Error (D)

- 1) A
- 2) B
- 3) C
- 4) D
- 5) None of These

Answer: 3 ("Discussing about" is wrong. Omit "about" to make it true.)

3) - In the following question, select the odd letters from the given alternatives.

Options:

- 1) ACFJ
- 2) RTWA
- 3) NPSV
- 4) HJMQ
- 5) BDGK

Answer: 3

4) The ratio of the number of boys and girls in a class is 2 : 3. The average weight of boys and girls in the class is 18 kg and 21 kg respectively. What is the average weight (in kgs) of all the boys and girls together?

- 1) $99/5$
- 2) $101/5$
- 3) $109/6$
- 4) $96/5$
- 5) $100/5$

Answer: 1

Solution: Let the number of boys in class = 2 and number of girls = 3

Average weight of boys = 18 kg

Therefore, the total weight of boys = $18 \times 2 = 36$ kg

Similarly, the total weight of girls = $21 \times 3 = 63$ kg

Therefore, average weight (in kg) of all the boys and girls together = $(36 + 63) / (2 + 3)$
= $99/5$

5) From a point, Lokesh starts walking towards south and after walking 30 metres he turns to his right and walks 20 metres, then he turns right again and walks 30 metres. He finally turns to his left and walk 40 metres. In which direction is he with reference to the starting point?

- 1) North-West
- 2) East
- 3) West
- 4) South
- 5) North

Answer: West

Solution:

40

6) In the following question, from the given alternative words, select the word which cannot be formed using the letters of the given word.

ENCYCLOPEDIA

- 1) CONE
- 2) CYCLE
- 3) NOISY
- 4) PEACE
- 5) PEDIA

Answer: 3

7) In a certain code language, "RAIN" is written as "OHBQ". How is "SUMMER" written in that code language?

- 1) QFLNTT
- 2) QDLLTR
- 3) SFNNVT
- 4) SDNLVR
- 5) SOQWER

Answer: 4

8) After two successive discounts of 20% and 12% an article is sold for Rs 16896. What is the marked price (in Rs) of the article?

- 1) 21500
- 2) 23800
- 3) 22000
- 4) 24000
- 5) 25000

Answer: 4

Solution :

Let the marked price be x.

After the first discount of 20%, marked price = 80% of x = $\frac{4}{5}x$

After the second discount of 12%, marked price = 88% of $\frac{4}{5}x$

So, according to the question, selling price = Rs. 16896

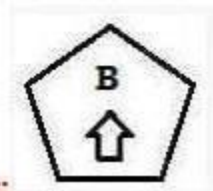
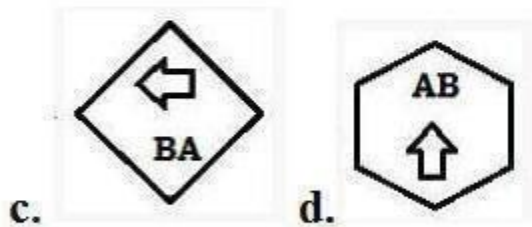
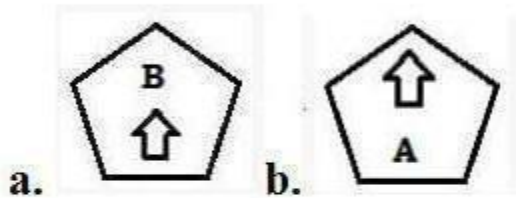
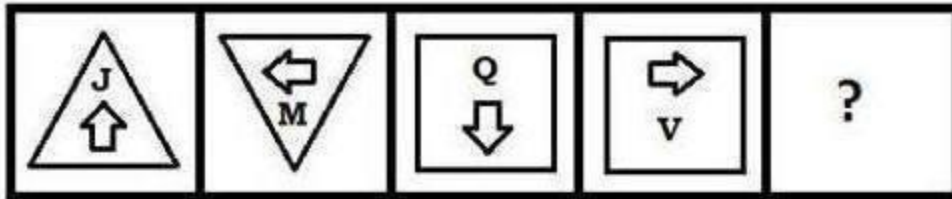
Therefore, 88% of $\frac{4}{5}x = 16896$

$$\left(\frac{88}{100} \times \frac{4}{5}\right)x = 16896$$

$$x = \frac{16896 \times 125}{88}$$

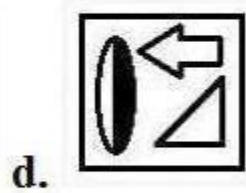
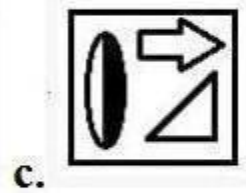
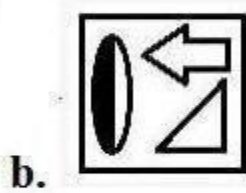
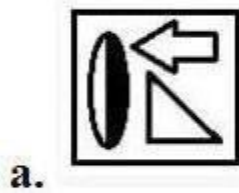
$$x = 192 \times 125 = \text{Rs. } 24000$$

9) Select the figure that can replace the question mark (?) in the following series.



Correct Answer:

10) Select the correct mirror image of the given figure when a mirror is placed on the right of the following figure



Correct Answer:



11) 5 years ago the average age of a family which includes father, mother and a son was 35 years. 3 years ago the average age of father and mother was 46 years. What is the present age (in years) of the son?

- 1) 20
- 2) 22
- 3) 24
- 4) 26
- 5) None of these

Answer: 2

Solution :

Let the present sum of ages of father and mother be x .

So three years ago, the sum of ages of father and mother = $(x-6)$ years

According to question,

$$(x-6) / 2 = 46$$

$$x - 6 = 92$$

$$x = 98$$

Let the present sum of ages of the father, mother and son be y .

So, 5 years ago, the sum of ages of the father, mother and son = $(y-15)$ years

According to the question,

$$(y-15) / 3 = 35$$

$$Y - 15 = 105$$

$$Y = 120$$

Present age of son = $120 - 98 = 22$ years

12) 30% of a number exceeds 25% of the same number by 27. What is the value of the number?

1) 450

2) 650

3) 540

4) 340

5) 600

Answer: 3

Solution 3:

Let the number be x

$$30\% \text{ of } x - 25\% \text{ of } x = 27$$

$$30/100 x - 25/100 x = 27$$

$$5x = 27 \times 100 \quad \text{Therefore } x = 540$$

13) The sentences given with blanks are to be filled with an appropriate word(s). Four alternatives

are suggested for each question. For each question, choose the correct alternative.

We acted on a _____ impulse.

- 1) momentary
- 2) momentous
- 3) memorable
- 4) meritorious
- 5) None of these

Answer: 1 (We acted on a momentary impulse.)

14) The sentences given with blanks are to be filled with an appropriate word(s). Four alternatives are suggested for each question. For each question, choose the correct alternative.

Do your best and we'll back you _____.

- 1) on
- 2) in
- 3) out
- 4) up
- 5) None of these

Answer: 4 (Do your best and we'll back you up.)

Directions (15-17): Read the data given below carefully and answer the following questions:

The table below gives details regarding five societies and the percentage of men, women and children living in the society.

Society	Total number of People	Men	Women	Children
S	4900	41	42	17
T	5200	39	48	13
U	6020	25	65	10
V	4850	44	34	22

15). What is the total number of children living in society T and V together?

- 1) 1777
- 2) 1743
- 3) 1700
- 4) 1667
- 5) 2000

Solution : Number of children in society T = $(13/100) \times 5200 = 676$ Number of children in society V = $(22/100) \times 4850 = 1067$ Total number of children = $676 + 1067 = 1743$

16). Total number of people staying in society T forms approximately what percent of the total number of people living in society V?

- 1) 104%
- 2) 102.5%
- 3) 107.2%
- 4) 110.34%
- 5) None of the above

Solution : Number of people living in society T = 5200 Number of people living in society V = 4850 Percentage = $(5200/4850) \times 100 = 107.2\%$

17). What is the total number of men staying in society U and the number of women staying in society T together?

- 1) 4001
- 2) 4000
- 3) 4002
- 4) 4004
- 5) 500

Solution : Number of men living in society U = $(25/100) \times 6020 = 1505$ Number of women living in society T = $(48/100) \times 5200 = 2496$ Total number of men living in society U and women living in society T = $1505 + 2496 = 4001$

18) - In the following question below are given some statements followed by some conclusions. Taking the given statements to be true even if they seem to be at variance from commonly known facts, read all the conclusions and then decide which of the given conclusion logically follows the given statements.

Statements:

I. All rackets are bats.

II. All bats are wickets.

Conclusions:

I. Some wickets are rackets.

II. All wickets are rackets.

Options:

1) Only conclusion (I) follows.

2) Only conclusion (II) follows.

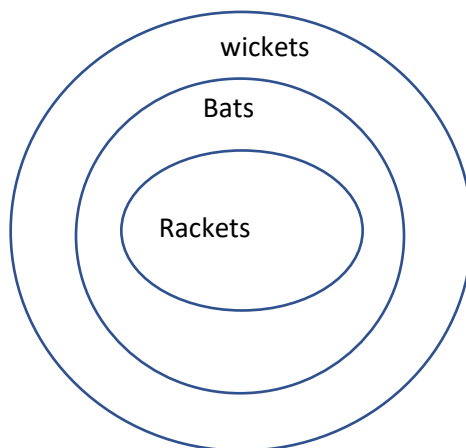
3) Neither conclusion (I) nor conclusion (II) follows.

4) Both conclusions follow.

5) Either (I) or (II) follow.

Answer: 1

Solution:



19) In a row of girls, position of Shreya from left side of the row is 11th and Aishwarya from the right side of the row is 17th. If Reema is sitting just in the middle of Shreya and Aishwarya and her position from Shreya is 5th, then how many girls are sitting in the row?

1) 35

2) 37

3) 26

4) 29

5) 31

Answer : 2

Solution 1: Position of Reema from left = Position of Shreya from left + Position of Reema from Shreya

$$= 11 + 5 = 16^{\text{th}}$$

Position of Reema from right = Position of Aishwarya from right + Position of Shreya from Aishwarya = $17 + 5 = 22^{\text{nd}}$

Total number of girls = (Sum of the positions of Reema from both sides) – 1

$$= (16 + 22) - 1$$

$$= 37$$

Directions Q. (20-21): Read the following information carefully and answer the questions that follow:

'A * B' means 'A is the mother of B'

'A x B' means 'A is the father of B'

'A + B' means 'A is the sister of B'

'A - B' means 'A is the brother of B'

'A > B' means 'A is the son of B'

'A < B' means 'A is the daughter of B'

20) In the expression 'P x Q + Y > Z', how is Z related to P?

1) Daughter-in-law

2) Daughter

3) Wife

4) Sister

5) Brother

Answer : 3

Solution : P x Q → P is the father of Q

Q + Y → Q is the sister of Y

Y > Z → Y is the son of Z

Hence, Z is the wife of P.

21) In the expression 'X + Y > M - N', how is X related to N?

- 1) Son
- 2) Daughter
- 3) Nephew
- 4) Niece
- 5) Mother

Answer : 4

Solution : $X + Y \rightarrow X$ is the sister of Y

$Y > M \rightarrow Y$ is the son of M

$M - N \rightarrow M$ is the brother of N

Therefore, X is the niece of N .

22). In a certain code language 'EXAMINATION' is written as 'FYBNJOBUPM'. Which word would

be coded as 'QPQVMBS'?

- 1) ANALYSE
- 2) FRIENDS
- 3) ROUTINE
- 4) POPULAR
- 5) PATIENT

Answer : 5

Solution :

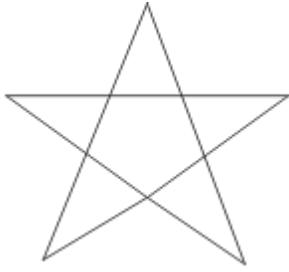
E(+1) X(+1) A(+1) M(+1) I(+1) N(+1) A(+1) T(+1) I(+1) O(+1) N(+1)

F Y B N J O B U H P M

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Q P Q V M B S

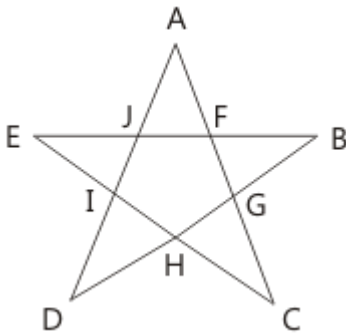
23) find the number of triangles in the given figure.



- 1) 5
- 2) 6
- 3) 8
- 4) 10
- 5) 9

Answer: D

Solution: The figure may be labelled as shown.



The simplest triangles are AJF, FBG, GCH, HDI, and IEJ

i.e. 5 in number.

The triangles composed of three components each EBH, AIC, EFC, ADG, and BJD i.e. 5 in number.

Thus, there are $5 + 5 = 10$ triangles in the figure.

Hence, option D is correct.

24) $(? - 2762.99) \div 86.05 \times 12.98 = 208.11$

- 1) 4132
- 2) 4111

3) 4133

4) 5132

5) 4139

Answer: 5

Solution

$$(? - 2762.99) \div 86.05 \times 12.98 = 208.11$$

$$\Rightarrow (? - 2763) \div 86 \times 13 = 208$$

$$\Rightarrow (? - 2763) \div 86 = 208 \div 13$$

$$\Rightarrow (? - 2763) = 16 \times 86$$

$$\Rightarrow ? = 1376 + 2763$$

$$\Rightarrow ? = 4139$$

25) $12.98 \times 252.03 \div 41.90 + 170.11 = ? + 46.988$

1) 200

2) 201

3) 202

4) 203

5) 204

Answer : 2

Solution : $12.98 \times 252.03 \div 41.90 + 170.11 = ? + 46.988$

$$13 \times 252 \div 42 + 170 = ? + 47$$

$$13 \times 6 + 170 = ? + 47$$

$$78 + 170 = ? + 47$$

$$248 = ? + 47$$

$$? = 201$$

Directions (26-27): Read the information given below and answer the following questions:

In a certain code language 'trains are always late' is written as 'mn fn bn gn'.

'Drivers were always punished' is written as 'gn dn cn hn'.

'Drivers stopped all trains' is written as 'bn cn vn rn'

'All passengers were late' is written as 'dn kn fn vn'

26) What will be the code for 'drivers'?

- 1) Kn
- 2) Vn
- 3) Fn
- 4) Hm
- 5) Cn

Answer : 5

Solution :

Drivers - cn

27) What will be the code for 'drivers late always'?

- 1) Kn vn cn
- 2) Cn gn fn
- 3) Cn dn bn
- 4) Rn vn dn
- 5) Gn mn fn

Answer: 2

Solution :

Drivers - cn

Always - gn

Late – fn

28) In the following questions, one part of the sentence may have an error. Find out which part of the sentence has an error. If the sentence is free from error, select the "No error" option.

She enquired from the stranger / who was he and / what he wanted from her

- 1) She enquired from the stranger
- 2) who was he and
- 3) what he wanted from her.

- 4) No Error
- 5) None of these

Answer: 2 ("Who was he" is incorrect. "Who he was " is the correct version)

29) Select the related word from the given alternatives.

Tongue : Taste :: Nose : ?

- 1) Smell
- 2) Face
- 3) Touch
- 4) Chin
- 5) None of these

Answer: 1

30) Select the related letters from the given alternatives.

FDH : LJN :: RPT : ?

- 1) XYZ
- 2) WUY
- 3) XVZ
- 4) SUV
- 5) None of these

Answer: 3

Solution: The pattern followed is:

$$F + 6 = L$$

$$D + 6 = J$$

$$H + 6 = N, \text{ Hence, } RPT = XVZ$$

31) Select the odd word from the given alternatives.

- 1) Nylon

- 2) Wool
- 3) Silk
- 4) Cotton
- 5) None of these

Answer: 4

32) Select the odd letters from the given alternatives.

- 1) ZXV
- 2) GDA
- 3) NKH
- 4) URO
- 5) None of these

Answer: 1

Solution:

- 1. Z (-2 letters) = X (-2 letters) = V
- 2. G (-3 letters) = D (-3 letters) = A
- 3. N (-3 letters) = K (-3 letters) = H
- 4. U (-3 letters) = R (-3 letters) = O

33) The ratio between the ages of Natasha and Shivani is 5:6 respectively. If the ratio between the one third age of Natasha and half of Shivani's age is 5:9, then what is Shivani's age?

- A. 15 years
- B. 21 years
- C. Cannot be determined
- D. 14 years
- E. None of the above

Answer : C

Solution :

Let Natasha's age be $5x$ years

Let Shivani's age be $6x$ years

According to question, $(\frac{1}{3} \times 5x) : (\frac{1}{2} \times 6x) = 5:9$

$\Rightarrow [5x / (3 \times 3x)] = 5/9$ Since age cannot be in fraction, therefore, Shivani's age cannot be determined

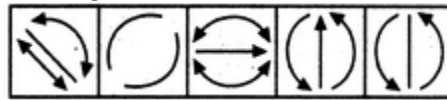
34) Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures:



(A) (B) (C) (D)

Answer Figures:



(1) (2) (3) (4) (5)

1) 2

2) 1

3) 3

4) 5

5) 4

Answer: Option 5

Explanation:

All the arrows reverse their directions.

35) The sentences given with blanks are to be filled with an appropriate word(s). Four alternatives are suggested for each question. For each question, choose the correct alternative.

Sanjay _____ his mother in the morning every day.

1) calls in

2) calls up

3) calls off

4) calls down

5) None of these

Answer: 2 (Sanjay calls up his mother in the morning every day.)

36) In each of the questions, four alternatives are given for the Idiom/Phrase. Choose the alternative which best expresses the meaning of the Idiom/Phrase.

An axe to grind

1) Attack aggressively

2) Suffer a lot

3) Betray somebody

4) Have a selfish interest

5) None of these

Answer: 4

Select the number that can replace the question mark (?) in the following series.

37) 39, 50, 63, 80, ?, 122, 147, 176

- 1) 90
- 2) 108
- 3) 99
- 4) 105
- 5) 100

Answer: C

Explanation:

The series follows pattern as,

$$39 + 11 = 50$$

$$50 + (11 + 2 = 13) = 63$$

$$63 + (13 + 4 = 17) = 80$$

$$80 + (17 + 2 = 19) = 99$$

$$99 + (19 + 4 = 23) = 122$$

$$122 + (23 + 2 = 25) = 147$$

$$147 + (25 + 4 = 29) = 176$$

38) A series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

DEC, HIG, LMK, PQO, TUS, ?

- 1) XYZ
- 2) WXY
- 3) XYW
- 4) YZA
- 5) None of these

Answer: 3

Solution: DEC, HIG, LMK, PQO, TUS, ?

The pattern followed is that in each letter of the term, the difference is of 4 letters.

1st letter: D (+ 4) H (+ 4) L (+ 4) P (+ 4) T (+ 4) X

2nd letter: E (+ 4) I (+ 4) M (+ 4) Q (+ 4) U (+ 4) Y

3rd letter: C (+ 4) G (+ 4) K (+ 4) O (+ 4) S (+ 4) W

39) A series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

YY, YOY, YYYY, YYOYY, YYYYYY, ?

- 1. YYYOYYYY
- 2. YYYOYYY
- 3. YYYYYY
- 4. YYYOYYYO
- 5. None of these

Answer: 2

Solution: YY, YOY, YYYY, YYOYY, YYYYYY, ?

The pattern followed is that in every alternate term 'O' is inserted between an even number of Y's
Thus, next term = YYYOYYY

40) In the question a statement is given, followed by two arguments, I and II. You have to consider the statement to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given arguments, if any, is a strong argument.

Statement: Should eating paan at public places be made punishable?

Argument I: Yes, people eat pan and spit and makes public places dirty.

Argument II: No, Indians love paan.

1. if only argument I is strong
2. if only argument II is strong
3. if both I and II are strong
4. if neither I nor II is strong
5. Either I or II is true

Answer : 1

41) Three numbers are in the ratio 3 : 4 : 5. The sum of the largest and the smallest equals the sum of the second and 52. The smallest number is

- 1) 20
- 2) 27
- 3) 39
- 4) 52
- 5) None of these

Answer: 3

Explanation:

as the three numbers are in ratio of 3:4:5

let the smallest number be $3y$

greatest number be $5y$ and other middle number be $4y$

it is given that $3y + 5y = 4y + 52$

$y = 13$

hence smallest number = $3 \times 13 = 39$

42) If the radius of a circle is increased by 50%, its area is increased by

- 1) 125%
- 2) 100%
- 3) 75%
- 4) 50%
- 5) None of these

Answer: 1

Explanation:

Area of circle =

After increasing the radius by 50%

New area of circle =

Hence , the area increases by 125%

43) A series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

AbC, dEfG, hIjKl, MnOpQr, ?

- 1) StUvWxY
- 2) StUvWx
- 3) StUvWxYZ

- 4) sTuVwXy
5) None of these

Answer: 1

Solution:

AbC, dEfG, hIjKl, MnOpQr, ?

The pattern followed is that capital and small alphabets are written alternatively and the number of letters are increased in each term.

So, in the next term 7 letters will be written starting with 'S' in capital.

Missing term = StUvWxY

44) Introducing Reeta, Monica said, "She is the only daughter of my father's only daughter." How is Monica related to Reeta?

- 1) Aunt
2) Niece
3) Cousin
4) Mother
5) None of these

Answer: 4

Solution: Monica's father's only daughter = Monica

Now, it is said that Reeta is the only daughter of Monica.

Thus, Monica is Reeta's mother.

45) If S = 19, SUN = 54 and CAKE = 20, then MISTAKE =?

- 1) 78
2) 68
3) 59
4) 48
5) None of these

Answer: 1

Solution:

The words are represented as the sum of numbers they represent as

A = 1, B = 2, C = 3,....., Z = 26

Therefore, SUN = 19 + 21 + 14 = 54

CAKE = 3 + 1 + 11 + 5 = 20

Similarly, MISTAKE = 13 + 9 + 19 + 20 + 1 + 11 + 5 = 78

A sentence/a part of the sentence is underlined. Four alternatives are given to the underlined part which will improve the sentence. Choose the correct alternative. In case no improvement is needed, select the option "No improvement".

46) He likes to drive his car at a speed of eighty kilometres each hour.

- 1) every hour
2) an hour
3) hourly
4) No improvement
5) None of these

Answer: 2 ("Each hour" is technically wrong. "An hour" is the correct version)

47) The single discount equal to three consecutive discounts of 10%, 12% and 5% is

- 1) 26.27%
- 2) 24.76%
- 3) 9%
- 4) 11%
- 5) None of these

Answer: 2

Explanation:

Let the cost price be 'X'

final selling price = $X * (1 - 0.1)(1 - 0.12)(1 - 0.05)$

= $X * 0.7524$

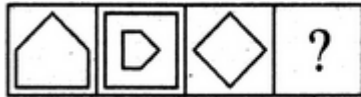
Final discount = $X - 0.7524X$

= 24.76%

48)

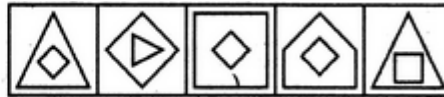
Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures:



(A) (B) (C) (D)

Answer Figures:



(1) (2) (3) (4) (5)

- 1) 1
- 2) 2
- 3) 3
- 4) 4
- 5) 5

Answer: Option 1

Explanation:

The figure rotates 90°CW; gets reduced in size and also gets enclosed in a figure with one less number of sides.

49) A sentence/a part of the sentence is underlined. Four alternatives are given to the underlined part which will improve the sentence. Choose the correct alternative. In case no improvement is needed, select the option "No improvement".

I'm staying with some friends who are owning a farm.

- 1) will be owning
- 2) own
- 3) have been owning
- 4) No improvement
- 5) None of these

Answer: 2 ("are owning" a farm is grammatically incorrect. Present Continuous is not required here. "Own a farm" is enough and makes perfect sense.)

50) The sentences given with blanks are to be filled with an appropriate word(s). Four alternatives are suggested for each question. For each question, choose the correct alternative.

Most children remain _____ school between the ages of seven and ten.

- 1) in
- 2) under
- 3) at
- 4) inside
- 5) None of these

Answer: 3

Directions Q. (51 - 55): In the following passage, some of the words have been left out. Read the passage carefully and select the correct answer for the given blank out of the four alternatives.

And then, a few glorious minutes _____ (54) _____, it was time to reluctantly head ashore. _____ (55) _____ time, the strokes were more fluid, the movements more relaxed. I turned back one last time _____ (53) _____ hello to a clown fish, the reason why I came to the Andamans. As I watched it played hide-and-seek _____ (51) _____ a sea anemone, before frisking away. Suddenly, I realised a kinship with the blue waters _____ (52) _____ the Bay of Bengal.

Q. (51)

- 1) to
- 2) for
- 3) from
- 4) with
- 5) None of these

Answer: 4

Q. (52)

- 1) for
- 2) from
- 3) to
- 4) of
- 5) None of these

Answer: 4

Q. (53)

- 1) to say
- 2) said
- 3) saying
- 4) says
- 5) None of these

Answer: 1

Q. (54)

- 1) late
- 2) later
- 3) lately
- 4) latest

5) None of these

Answer: 2

Q. (55)

1) These

2) Those

3) At

4) This

5) None of these

Answer: 4

56) If '+' stands for multiplication, '-' stands for addition, 'x' stands for division, then what is the value of

$$128 + 9 - 16 \times 4 = ?$$

1) 73

2) 256

3) 1156

4) 1352

5) None of these

Answer: 3

Solution: Given, $128 + 9 - 16 \times 4 = ?$

Now, according to the question, $128 \times 9 + 16 \div 4$

$$= 1152 + 4$$

$$= 1156$$

57) Select the related word/letters/numbers from the given alternatives.

Magazine : Editor :: Drama : ?

1) Director

2) Hero

3) Heroine

4) Painter

5) None of these

Answer: 1

Solution:

Expression = Magazine: Editor: Drama: ?

An editor is a person who determines the final content of a magazine, similarly, a director is in charge of a drama

58) Find the odd word/letters/number pair from the given alternatives.'

1) CA

2) FD

3) KI

4) TQ

5) None of these

Answer: 4

Solution:

$$\boxed{C} \text{ (-2 letters)} = A$$

- ☐ F (-2 letters) = D
- ☐ K (-2 letters) = I
- ☐ T (-3 letters) = Q

59) Find the odd word/letters/number pair from the given alternatives.

- 1) 73 - 61
- 2) 57 - 69
- 3) 47 - 59
- 4) 42 - 29
- 5) None of these

Answer: 4

Solution:

- ☐ 73 - 61 = 12
- ☐ 69 - 57 = 12
- ☐ 59 - 47 = 12
- ☐ 42 - 29 = 13

60) 'Astronomy' is related to 'Stars' in the same way as 'Agronomy' is related to '_____'

- 1) Emotions
- 2) Plants
- 3) Mines
- 4) Crops
- 5) None of these

Answer: Crops

61) In the following question, out of the four alternatives, select the word similar in meaning to the word given.

Fallacy

- 1) Conformity
- 2) Surety
- 3) Bias
- 4) Evidence
- 5) None of these

Answer: 3

62) In the following question, out of the four alternatives, select the word opposite in meaning to the word given.

Veneration

- 1) Adoration
- 2) Contempt
- 3) Reverence
- 4) Admiration
- 5) None of these

Answer: 2

63) The odd element in the sequence 3, 7, 13, 21, 33, 43, 57, is :

- 1) 21

- 2) 33
- 3) 43
- 4) 7
- 5) 57

Answer: B

Explanation:

here the given sequence is 3, 7, 13, 21, 33, 43, 57

$$7 - 3 = 4$$

$$13 - 7 = 6$$

$$21 - 13 = 8$$

$$33 - 21 = 12$$

$$43 - 33 = 10$$

$$57 - 43 = 14$$

here we can see that difference between consecutive terms is increasing by 2 every time but due to presence of 33 the pattern is not

getting formed and hence 31 is the right number in place of 33 and hence odd one out is 33

64) 35 210 1050 4200 ? 25200

- 1) 12600
- 2) 12340
- 3) 12580
- 4) 12200
- 5) None of these

Answer: 1

Explanation:

Series Pattern Given Series

$$35 \qquad \qquad 35$$

$$35 \times 6 = 210 \qquad 210$$

$$210 \times 5 = 1050 \qquad 1050$$

$$1050 \times 4 = 4200 \qquad 4200$$

$$4200 \times 3 = 12600 \qquad 12600$$

$$12600 \times 2 = 25200 \qquad 25200$$

65) 5 7.5 15 27.5 112.5 393.75 1575

- 1) 393.75
- 2) 112.5
- 3) 27.5
- 4) 15
- 5) 7.5

Answer: C

Series Pattern

$$5$$

$$5 \times 1.5 = 7.5$$

$$7.5 \times 2 = 15$$

$$15 \times 2.5 = 37.5$$

$$37.5 \times 3 = 112.5$$

$$112.5 \times 3.5 = 393.75$$

Given Series

$$5(\text{Correct})$$

$$7.5(\text{Correct})$$

$$15(\text{Correct})$$

$$27.5(\text{Incorrect})$$

$$112.5(\text{Correct})$$

$$393.75(\text{Correct})$$

$$393.75 \times 4 = 1575$$

1575(Correct)

66) In the following question, out of the four alternatives, select the alternative which will improve the bracketed part of the sentence. In case no improvement is needed, select "no improvement".

All (was surprising) to find that he was not with them.

- 1) was surprised
- 2) were surprised
- 3) is surprised
- 4) no improvement
- 5) None of these

Answer: 1

67) Select the letter-cluster that can replace the question mark in the following series.

ADG, CGK, EJO, ?, IPW

- 1) GNZ
- 2) GMS
- 3) GMZ
- 4) GNS
- 5) None of these

Answer: GMS

68) In the following question, the sentence given with blank to be filled in with an appropriate word.

Select the correct alternative out of the four and indicate it by selecting the appropriate option.

The diamond necklace was _____ too extravagant for a simple dinner party.

- 1) distance
- 2) long
- 3) very much
- 4) far
- 5) None of these

Answer: 4

69) Select the antonym of the given word.

TENDER

- 1. soft
- 2. warm
- 3. gentle
- 4. rough
- 5) None of these

Answer: 4 (rough)

70) Select the synonym of the given word.

GARRULOUS

- 1. guttural
- 2. throaty
- 3. concise
- 4. talkative

5) None of these

Answer: talkative

71) - P and Q are brothers. P is the father of S. R is the only son of Q and is married to U. How is U related to S?

1) Sister-in-law

2) Mother-in-law

3) Sister

4) Mother

5) Cannot be Determined

Answer: Sister-in-law

72) In a certain code language, "NIGHT" is written as "ODDGM" and "DARK" is written as "GOYC". How is "GREEN" written in that code language?

1) IABPF

2) MCBNB

3) OGHVL

4) FPBAI

5) None of these

Answer: IABPF

73) In the following question, correct the equation by interchanging two signs.

$$4 \times 3 - 6 \div 2 + 7 = 8$$

1) – and +

2) x and –

3) ÷ and x

4) x and +

5) None of these

Answer: – and +

74) Select the antonym of the given word.

ESCALATE

1) reduce

2) enlarge

3) raise

4) heighten

5) None of these

Answer: 1 (reduce)

75) Select the most appropriate option to fill in the blank.

She got a lucrative job of a translator because she was _____ in French.

1) Deficient

2) Sufficient

3) Proficient

4) Efficient

5) None of these

Answer: 3 (She got a lucrative job of a translator because she was proficient in French.)

76) In the following question, which one set of letters when sequentially placed at the gaps in the given letter series shall complete it?

_ yzaa _ y _ xy _ aazy _

- 1) xxzzx
- 2) xxaza
- 3) xzxzx
- 4) aazzx
- 5) xxxaa

Answer: xzxzx

77) In a row of 74 girls, Shweta is 27th from left end. Palak is 7th to the right of Shweta. What is Palak's position from the right end of the row?

- 1) 40
- 2) 41
- 3) 42
- 4) 44
- 5) None of these

Answer: 2

78) In the following question, from the given alternative words, select the word which can be formed using the letters of the given word.

CAPITULATE

- 1) CAPABLE
- 2) LUPIN
- 3) PITTY
- 4) TALE
- 5) None of these

Answer: TALE

79) Arrange the given words in the sequence in which they occur in the dictionary.

- 1) Pragmatic
 - 2) Protect
 - 3) Pastel
 - 4) Postal
 - 5) Pebble
- 1) 43521
 - 2) 35412
 - 3) 34512
 - 4) 43512

Answer: 35412

80) A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.

A, C, E, G, ?

- 1) H
- 2) I

- 3) J
- 4) F
- 5) B

Answer I

81) In the following question, select the odd word pair from the given alternatives.

- 1) Venus : Planet
- 2) Moon : Satellite
- 3) Jupiter : Black Hole
- 4) Sun : Star
- 5) None of these

Answer: Jupiter : Black Hole

82) If 'A + B' means 'A is father of B', 'A – B' means 'A is mother of B', 'A * B' means 'A is brother of B' and 'A % B' means 'A is sister of B', then how is Q related to S in 'P + Q * R – S'?

- 1) Husband
- 2) Uncle
- 3) Brother
- 4) Father
- 5) Aunt

Answer: Uncle

83) In a certain code language, 'VIRTUE' is coded as '201' and 'TRAGEDY' is coded as '218'. How will 'PROFANE' be coded in that language?

- 1) 570
- 2) 342
- 3) 432
- 4) 456
- 5) None of these

Answer: 2

84) Select the option in which the words share the same relationship as that shared by the given pair of words.

Resistance: Ohm

- 1) Angle: Radians
- 2) Ampere: Current
- 3) Force: Watt
- 4) Density: Joule
- 5) None of these

Answer: 1

85) Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the letter-cluster that is different.

- 1) HJMP
- 2) BDGT
- 3) TVYB
- 4) LNQJ

5) ABCD

Answer: 1

86) 33600 4200 600 100 ? 5

1) 42

2) 56

3) 60

4) 20

5) None of these

Correct Option: 4

Series Pattern

Given Series

33600

33600

$33600 \div 8 = 4200$

4200

$4200 \div 7 = 600$

600

$600 \div 6 = 100$

100

$100 \div 5 = 20$

20

$20 \div 4 = 5$

5

87) The ratio of the capacity to do work of A and B is 3: 2. if they together can complete a work in 18 days, then how long does a take to complete the work alone?

1) 20 days

2) 30 days

3) 45 days

4) 25 days

5) None of these

Answer: 2

Solution:

It is given that the ratio of the capacity to do work of A and B is 3: 2.

They together can complete the work in 18 days.

Let the efficiency of A and B are $3x$ and $2x$ respectively.

The sum of their efficiency = $3x + 2x = 5x$

Therefore, efficiency = work / time

$\Rightarrow 5x = \text{work} / 18$

$\Rightarrow \text{Work} = 90x$

The efficiency of A is $3x$ and the total work is $90x$.

Therefore, $3x = 90x / \text{time}$

$\Rightarrow \text{time} = 90x / 3x = 30 \text{ days}$

88) The value of $15.2 + 5.8 \div 2.9 \times 2 - 3.5 \times 2 \div 0.5$ is equal to:

1) 4.8

2) 3.2

3) 5.2

4) 5.4

5) None of these

Answer: 3

Solution: $15.2 + [(5.8 \div 2.9) \times 2] - [(3.5 \times 2) \div 0.5]$

$= 15.2 + 4 - 14$

$= 15.2 - 10$

= 5.2

89) 10 22 46 94 ? 382

- 1) 112
- 2) 128
- 3) 149
- 4) 167
- 5) None of these

Answer: 5

Series Pattern Given Series

$4 \times 2 + 2 = 10$	10
$10 \times 2 + 2 = 22$	22
$22 \times 2 + 2 = 46$	46
$46 \times 2 + 2 = 94$	94
$94 \times 2 + 2 = 190$	190
$190 \times 2 + 2 = 382$	382

90) Find the digits indicated by x & y in the number 353292xy if the number is completely divisible by 33.

- 1) x = 4, y = 5
- 2) x = 0, y = 6
- 3) x = 3, y = 6
- 4) x = 0, y = 9
- 5) None of these

Answer: 2

We can solve this question applying hit and trial method.

Among the given options, only option B (0 and 6) satisfies the divisibility conditions for factors of 33 (3 and 11).

The given number:

353292xy

Putting the values, we get

35329206

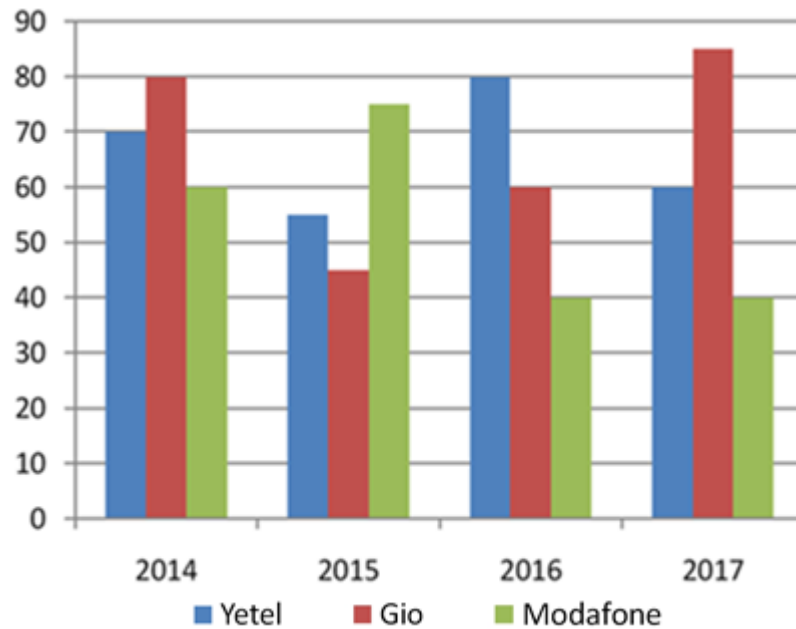
The sum of all the digits is = 30 which is divisible by 3.

And

(Sum of the digits at even places) - (Sum of the digits at odd places) = 15 - 15 = 0

Clearly, the number is divisible by 11 as well.

Direction (91-92): The graph shows the number of users in lakhs of three different mobile network companies Yetel, Gio and Modafone in various years 2014 to 2017.



91) What is the ratio of the number of users of Yetel to that of Modafone during the period 2015 to 2017.

- 1) 36 : 37
- 2) 39 : 31
- 3) 38 : 39
- 4) 31 : 39
- 5) None of these

Answer: 2

Solution:

The number of users of Yetel during 2015 to 2017 = $(55 + 80 + 60) = 195$

The number of users of Modafone during 2015 to 2017 = $(75 + 40 + 40) = 155$

Required ratio = $195 : 155 = 39 : 31$.

92) Total users of all three companies in 2017 are what percentage less than the total users of all the three companies in 2014?

- 1) 11.9%
- 2) 9.9%
- 3) 12.5%
- 4) 22%
- 5) None of these

Answer: 1

Solution:

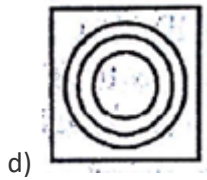
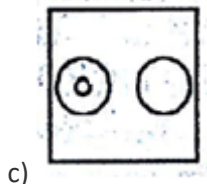
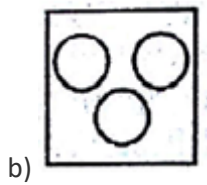
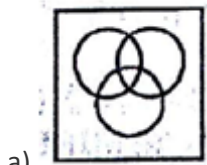
Total users of all three companies in 2014 = $70 + 80 + 60 = 210$

Total users of all three companies in 2017 = $60 + 85 + 40 = 185$

Reqd % = $\frac{210 - 185}{210} \times 100 = 11.9\%$

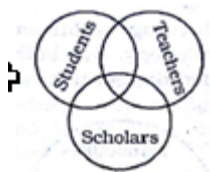
210

93) Which Venn diagram truly represents relationship among Teachers, Scholars and Students ?

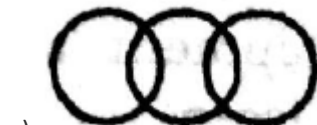


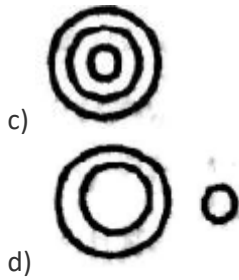
e) None of these

Solution Is A: Some students may be scholars and vice-versa. Some teachers may be Scholars and vice-versa. Some students may be teachers and vice-versa. Some students who are school are may be teachers.



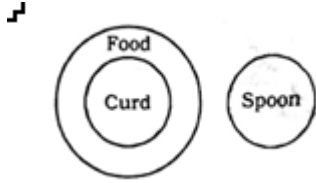
94) Identify the diagram that best represents the relationship among classes given below :
Food, Curd, Spoons



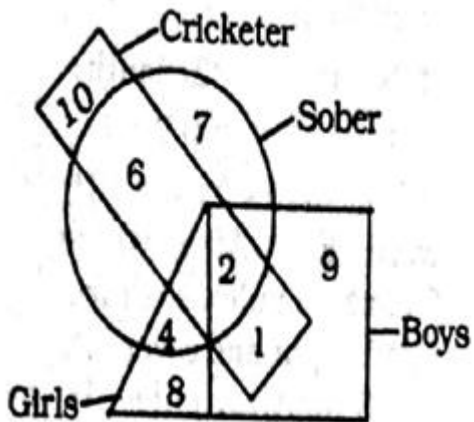


e) None of these

Solution Is D: Curd is a food item. Spoon is different from the both food and curd.



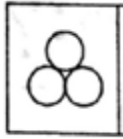
95) In the following figure, the boys who are cricketer and sober are indicated by which number ?



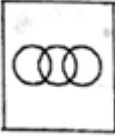
- a) 6
- b) 5
- c) 4
- d) 2
- e) None of these

Solution Is : The required region should be common to the circle, the rectangle and the square but outside triangle. Such region is marked '2'.

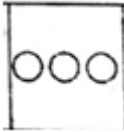
**96) Identify the diagram that best represents the relationship among the classes the given below:
Females, Sisters, Teachers**



a)



b)



c)

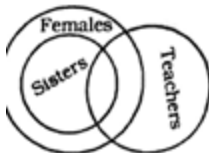


d)

e) None of these

Solution Is D:

- i) All sisters are females.
- Some sisters are teachers.
- Some teachers are females.





97) Choose from the given diagrams the one that illustrates the relationship among three classes China, India, Asia



a)



b)

- c) 
- d) 
- e) None of these

Solution is D: India and china are two different Asian countries



98) Select the most appropriate option to fill in the blank.

The committee reached _____ decision regarding the appointment of the chairman.

- 1) a compatible
- 2) a unanimous
- 3) an agreeable
- 4) an exemplary
- 5) None of these

Answer: 2 (The committee reached a unanimous decision regarding the appointment of the chairman.)

Directions Q. (99 - 102):

A company administers a written test comprising of three sections of 20 marks each – Data Interpretation (DI), Written English (WE) and General Awareness (GA), for recruitment. A composite score for a candidate (out of 80) is calculated by doubling her marks in DI and adding it to the sum of her marks in the other two sections. Candidates who score less than 70% marks in two or more sections are disqualified. From among the rest, the four with the highest composite scores are recruited. If four or less candidates qualify, all who qualify are recruited.

Ten candidates appeared for the written test. Their marks in the test are given in the table below:

Candidate	Marks out of 20		
	DI	WE	GA
Ajay	8		16
Bala		9	11
Chetna	19	4	12
Danish	8	15	
Ester	12	18	16
Falak	15	7	10
Geeta	14		6
Harini	5		
Indu		8	
Jatin		16	14

Some marks in the table are missing, but the following facts are known:

1. No two candidates had the same composite score.
2. Ajay was the unique highest scorer in WE.
3. Among the four recruited, Geeta had the lowest composite score.
4. Indu was recruited.
5. Danish, Harini, and Indu had scored the same marks the in GA.
6. Indu and Jatin both scored 100% in exactly one section and Jatin's composite score was 10 more than Indu's.

Which of the following statements MUST be true?

1. Jatin's composite score was more than that of Danish.
2. Indu scored less than Chetna in DI.
3. Jatin scored more than Indu in GA.

- a) Only 2
- b) Both 2 and 3
- c) Only 1
- d) Both 1 and 2
- e) None of these

Which of the following statements MUST be FALSE?

- a) Bala scored same as Jatin in DI
- b) Bala's composite score was less than that of Ester
- c) Chetna scored more than Bala in DI
- d) Harini's composite score was less than that of Falak

e) None of these

If all the candidates except Ajay and Danish had different marks in DI, and Bala's composite score was less than Chetna's composite score, then what is the maximum marks that Bala could have scored in DI?

- a) 11
- b) 12
- c) 13
- d) 14
- e) 15

If all the candidates scored different marks in WE then what is the maximum marks that Harini could have scored in WE?

- a) 11
- b) 12
- c) 13
- d) 14
- e) 15

Answer 99 - 102

Danish, Harini, and Indu had scored the same marks the in GA.

Indu and Jatin both scored 100% in exactly one section and Jatin's composite score was 10 more than Indu's.

Indu and Jatin both scored 100% in exactly one section and Jatin's composite score was 10 more than Indu's.

Now, if Indu had scored 100% in DI, then her CS would be $20 \times 2 + 8 + x = 60$ or, x should be 12.

Now, this is a problem as Indu could have less than 70% in 2 sections and so would not have been selected.

Candidate	Marks out of 20			
	DI	WE	GA	CS
Ajay	8	19/20	16	
Bala		9	11	
Chetna	19	4	12	54
Danish	8	15	20	51
Ester	12	18	16	58
Falak	15	7	10	47
Geeta	14		6	
Harini	5		20	
Indu	16	8	20	60
Jatin	20	16	14	70

4th highest CS
among those
selected

So, $x = 20$.

Indu and Jatin are in. The highest CS Geeta can get is 54, so Ester is also in.

Ajay could not have scored 19 in WE as his CS would then become 51 same as Danish.

So, Ajay should have scored 20 in WE resulting in an CS of 52.

Candidate	Marks out of 20			
	DI	WE	GA	CS
Ajay	8	20	16	52
Bala		9	11	
Chetna	19	4	12	54
Danish	8	15	20	51
Ester	12	18	16	58
Falak	15	7	10	47
Geeta	14		6	
Harini	5		20	
Indu	16	8	20	60
Jatin	20	16	14	70

4th highest CS
among those
selected

Candidate	Marks out of 20			
	DI	WE	GA	CS
Ajay	8	20	16	52
Bala		9	11	
Chetna	19	4	12	54
Danish	8	15	20	51
Ester	12	18	16	58
Falak	15	7	10	47
Geeta	14	19	6	53
Harini	5		20	
Indu	16	8	20	60
Jatin	20	16	14	70

4th highest CS
among those
selected

Geeta should have scored a CS of more than 52 so she should have scored 19 or 20 in WE. But Ajay was the unique highest scorer in WE.

So, Geeta should have score 19 in WE.

Options 1 and 2 are both true. Option 3 is not true.

Therefore Both 1 and 2

The question is "Which of the following statements MUST be true?"

99. Hence, the answer is Both 1 and 2

Choice D is the correct answer.

100. The question is "Which of the following statements MUST be FALSE?"

Hence, the answer is Bala scored same as Jatin in DI

Choice A is the correct answer.

Geeta should have scored a CS of more than 52 so she should have scored 19 or 20 in WE. But Ajay was the unique highest scorer in WE.

So, Geeta should have score 19 in WE.

Let us assume Bala scored x in DI. His CS would be $2x + 20$. We know $2x + 20 < 56$ or, $x < 18$.

$x = 17$ gives Bala a CS of 54 which Chetna has scored.

x cannot be 16, 15 or 14 because Indu, Falak and Geetha have those scores.

$x = 13$ gives us a CS score of 46 which thankfully no one has.

Harini could not have scored 20, 19 or 18. If Harini had scored 17, her CS would have been 47 same as Falak. So, 17 is also ruled out.

16 and 15 are also ruled out. H_{\max} could be 14. This gives us a CS of 44 which should be fine.

WE of 14 works

103) In a certain code language, 'SPECIAL' is coded as '20176410213'. How will 'MACHINE' be coded as in that language?

- 1) 1324810155
- 2) 1424901056
- 3) 1424910156
- 4) 1524910146
- 5) None of these

Answer: 3

Explanation:

'SPECIAL' is coded as '20176410213'.

Like as,

$$S + 1 = 20$$

$$P + 1 = 17$$

$$E + 1 = 6$$

$$C + 1 = 4$$

$$I + 1 = 10$$

$$A + 1 = 2$$

$$L + 1 = 13$$

Similarly,

For 'MACHINE',

$$(M + 1)(A + 1)(C + 1)(H + 1)(I + 1)(N + 1)(E + 1) \\ = 1424910156$$

104) Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the odd letter-cluster.

- 1) AZ
- 2) LO
- 3) GT
- 4) KN
- 5) None of these

Answer: 4

Explanation:

$$AZ \ 1 + 26 = 27$$

$$LO \ 12 + 15 = 27$$

$$GT \ 7 + 20 = 27$$

$$KN \ 11 + 14 = 25$$

105) Select the letter will replace the question mark (?) in the following series.

A, J, E, L, I, N, O, P, U, ?

- 1) R
- 2) W
- 3) K
- 4) B
- 5) None of these

Answer: 1

Explanation:

There are 2 series,

A, E, I, O, U

And,

J, L, N, P, ?

2nd series follows pattern as,

$$J + 2 = L$$

$$L + 2 = N$$

$$N + 2 = P$$

$$P + 2 = R$$

106) Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

A. Nevertheless, sound health, economic security and mental satisfaction are desired by all

B. A change that is conducive to happiness may be termed as progress.

C. But different people find happiness in different things.

D. So, If a change contributes to the growth of these factors, it is progress.

1) DBCA

2) ABCD

3) BDCA

4) BCAD

5) DABC

Answer 4

107) Given below are four jumbled sentences. Out of the given options pick the one that gives their correct order.

A. Can I borrow your camera?

B. I will give it back to you next week.

C. I am going to jungle safari tomorrow.

D. My friend told me that jungle is beautiful in these days.

1) CADB

2) CDAB

3) BACD

4) ADBC

5) ABCD

Answer 2

108) Select one word for the following group of words.

A period of ten years

1) Fortnight

2) Millennium

3) Century

4) Decade

5) None of these

Answer 4

109) ABE: 8::KLO:?

- 1) 37
- 2) 39
- 3) 38
- 4) 36
- 5) None of these

Answer: 3

Explanation:

Analogy - Alphanumeric series

So A = 1 , B = 2 , E = 5

A + B + E = 8

Therefore K = 11 , L = 12 , O = 15

110) M is the son of P. Q is the granddaughter of O, who is the husband of P. How is M related to O?

- 1) Son
- 2) Daughter
- 3) Mother
- 4) Father
- 5) Uncle

Answer: 1

Explanation:

M is the son of P and O is the husband of P, therefore M is the son of O.

111) In a row of boys, Srinath is 7th from the left and Venkat is 12th from the right. If they interchange their positions, Srinath becomes 22nd from the left. How many boys are there in the row ?

- 1) 19
- 2) 31
- 3) 33
- 4) 34
- 5) 56

Answer: 3

Explanation:

After interchanging position 12th position from right will be 22nd position from left

Hence total no. of students will be $22 + 11 = 33$

112) Statement: Politicians become rich by the votes of the people.

Assumptions:

I. People vote to make politician rich.

II. Politicians become rich by their virtue.

- 1) Only I is implicit
- 2) Only II is implicit
- 3) Both I and II are implicit
- 4) Both I and II are not implicit
- 5) Either I or II Implicit

Answer: 4

Explanation:

Assumption 1 is indirectly stating the statement and assumption 2 is also not valid

Direction(113- 124) : Read the following passages carefully and answer the questions given below them. Certain words are given in bold to help you to locate them while answering some of the questions.

PASSAGE

India is a country of villages with total approx 2,00,000 small villages. Rural population still dominates the urban population as far as the number is considered. This is despite the fact that there is rampant migration of rural families to urban centres as per some sources almost 20% of the villages have completely migrated. Generally, the gains of being a unit of the urban population are less than the disadvantages and risks that are in-built in the urban life. Crime, riots, etc are some of the examples of such risks of urban life.

The forces that generate conditions conducive to crime and riots are stronger in urban communities than in rural areas. Urban living is more anonymous living, 30% of the migrated villagers were able to upgrade to Urban Living. It often releases the individual from community restraints more common in tradition-oriented societies. But more freedom from constraints and controls also provides greater freedom to deviate. And living in the more impersonalized, formally controlled urban society means that regulatory orders of conduct are often directed by distant bureaucrats. The police are strangers executing these prescriptions on an anonymous set of subjects.

Minor offences in small town or village are often handled without resort to official police action. As disputable as such action may seem to be, it results in fewer recorded violations of the law compared to those in the big cities. Although perhaps causing some decision difficulties for the police in small town, formal and objective law enforcement is not always acceptable to the villagers. Urban area with mass population, greater wealth, more commercial establishments and more products of our technology also provide more frequent opportunities for theft.

Victims are impersonalized, property is insured, consumer goods in more abundance are vividly displayed and are more portable. The crime rate increases despite formal moral education given in schools.

113) Which of the following would be the best title for the above passage?

- 1) Lure of Village Life
- 2) Rural-Urban Rift
- 3) Hazards of Urban Life
- 4) Crime and Punishment
- 5) Urban Crimes and their Reasons

Answer. 3

114) How many villages are migrated to Urban Living?

- 1) 14000
- 2) 12000
- 3) 13000
- 4) 15000
- 5) None of these

Answer 2; $200000 \times 20\% \times 30\% = 12000$

115) The author thinks that risks and disadvantages are

- 1) outweigh the gains of rural life
- 2) surpassed by the gains of urban life
- 3) almost negligible in rural life
- 4) more than the gains in urban life
- 5) None of these

Answer 4

116) Which of the following is a characteristic of an urban setting?

- 1) Less forceful social control
- 2) Minimal opportunities of crime due to better law enforcement
- 3) Deviation from freedom
- 4) Unreported minor crimes
- 5) Fewer recorded violations of the law Minimal = very small in size or amount; as small as possible

Answer 1

117) Which of the following statements is TRUE in the context of the passage?

- 1) Small communities have more minor crimes than in urban centres.
- 2) Urban crimes cannot be prevented.
- 3) Lack of personal contacts increases crimes in urban areas.
- 4) The display of consumer goods is the main cause of crime.
- 5) Police in urban areas settle minor disputes without official action.

Answer 3

118) Which of the following inference(s) can be drawn from the contents of the passage?

- A) The migration of people from rural areas to urban centres is almost negligible.
B) Strangers can enforce laws in a more impartial manner than known people can.
C) Wealth has concentrated more in urban centres than in rural areas.

- 1) A and C only
- 2) All the three
- 3) B and C only
- 4) A and B only
- 5) None of these

Answer 3

119) The behaviour of people is generally moulded because of social control in

- 1) an anonymous form of living
- 2) non-traditional societies
- 3) the presence of the police authorities
- 4) formally controlled urban societies
- 5) None of these

Answer 5

120) It can be inferred from the passage that urban crime can be controlled by

- 1) vivid display of expensive consumer goods
- 2) making expensive consumer goods less portable
- 3) enforcement of law by distant bureaucrats
- 4) greater emphasis on moral education

5) None of these

Answer 2

121) The author's view of 'Traditional Societies' is best expressed by which of the following?

- 1) They provide inadequate freedom for personal movements and travel.
- 2) They do not have adequate modern technology.
- 3) They have lower crime rates because of the moral teachings in schools.
- 4) They provide less freedom for the individual in many circumstances.
- 5) They are ruled and controlled by distant bureaucrats.

Answer 4

122) According to the passage, the crime in small towns

- 1) leads to an impersonalized style of living
- 2) is often dealt with objective law enforcement
- 3) is brought well under control by distant bureaucrats
- 4) is less frequently reported or dealt with officially
- 5) always causes difficulties for the police authorities

Answer 4

123) Which of the following statements is NOT TRUE in the context of the passage?

- 1) Urban areas are thickly populated and commercialized.
- 2) Anonymous living in urban areas may lead to a freedom to deviate from rules.
- 3) There is less freedom in the current society than in a traditional society.
- 4) Moral education imparted in schools is ineffective in checking crime rate.
- 5) Urban areas provide more opportunities for crime than rural areas do.

Answer 3

124) According to the passage, all of the following contribute to higher crime rates in urban areas EXCEPT.

- 1) urban impersonalized living
- 2) increasing population
- 3) higher standard of living
- 4) vivid display of consumer goods
- 5) inadequate police force

Answer 5

125) In a classroom, there are 5 rows, and 5 children A, B, C, D and E are seated one behind the other in 5 separate rows as follows: A is sitting behind C, but in front of B. C is sitting behind E. D is sitting in front of E. The order in which they are sitting from the first row to the last is

- 1) DECAB
- 2) BACED
- 3) ACBDE
- 4) ABEDC
- 5) ABCED

Answer: 1

Explanation:

According to given question sitting arrangement will be

B

A
C
E
D

Where first row is bottom one where D is present.
So order will be DECAB

126) At a college party 5 girls are sitting in a row. P is to the left of M and to the right of O. R is sitting to the right of N, but to the left of O. Who is sitting in the middle?

- 1) O
- 2) R
- 3) P
- 4) M
- 5) Cannot be Determined

Answer: 1

Solution:

Given, P is to the left of M and to the right of O

Therefore, the possible arrangement is O P M

Also, R is sitting to the right of N, but to the left of O

Therefore, another possible arrangement is NRO

Thus, combining the above statements, we get the final arrangement as NROPM

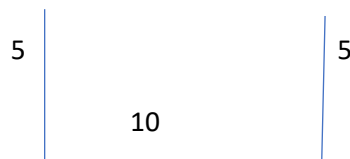
Hence, O is sitting in the middle.

127) To attend an exam, Sudhir reached the school by travelling 5 km towards South, and after a sharp left turn, he travelled for about 10 km. He again made a sharp left turn and reached in front of the school by travelling 5 km more. Which direction is Sudhir's starting point from the school?

- 1) East
- 2) West
- 3) North
- 4) South
- 5) North-West

Answer: 2

Solution:



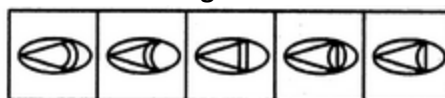
128) Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures:



(A) (B) (C) (D)

Answer Figures:



(1) (2) (3) (4) (5)

- 1) 1

- 2) 2
- 3) 3
- 4) 4
- 5) 5

Answer: Option 1

Explanation:

A cone is introduced inside the figure. The arcs in the cone are parts of the main figure.

129) Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures:



(A) (B) (C) (D)

Answer Figures:



(1) (2) (3) (4) (5)

- 1) 2
- 2) 1
- 3) 3
- 4) 4
- 5) 5

Answer: Option 5

Explanation:

The right half of the figure is lost and the remaining portion is shaded.

130) Arti, Bhavya, Chaitanya, Divya, Kavya, Lalit and Manasvi live in a seven floored building but not necessarily in the same order. The lowermost floor of the building is numbered one and the one above that is numbered two and so on. The top most floor is seven. Each one of them likes different games namely- table tennis, badminton, chess, volleyball, cricket, hockey and polo (not necessarily in the same order). Only three people live between Bhavya and Kavya. Bhavya lives on one of the floors above Kavya. Kavya does not live on the lowest most floor. Only one person lives in between Bhavya and the one who likes chess. Only two people live between Manasvi and the one who likes chess. The one who likes table tennis lives immediately above Manasvi. Arti lives immediately above Lalit. Arti does not like chess. The one who likes volleyball lives on one of the odd numbered floors below Lalit. Manasvi does not like volleyball. Divya lives on one of the floors above Chaitanya. One person lives between the one who likes hockey and the one who likes cricket. Divya does not like cricket. Manasvi does not like badminton.

Q . Which among the given combinations is incorrect?

- 1) Lalit-cricket-7th floor
- 2) Manasvi-cricket-2nd floor
- 3) Divya-hockey-4th floor
- 4) Kavya-Table tennis-3rd floor

5) Arti-polo-6th floor

7	Bhavya	Badminton
6	Arti	Polo
5	Lalit	Chess
4	Divya	Hockey
3	Kavya	Table Tennis
2	Manasavi	Cricket
1	Chaitanya	Volleyball

Directions (131-132): There are six people Akshay, Aradhana, Sunil, Shikha, Tanya, and Babita in a family. They are a psychologist, Manager, Lawyer, Jeweler, Doctor, and Engineer. The doctor is the grandfather of Babita who is a psychologist. The manager Shikha is married to Akshay. Sunil, the jeweller is married to the Lawyer. Aradhana is the mother of Tanya and Babita. The number of married couples in the family is two.

131) How is Shikha related to Tanya?

- 1) Sister
- 2) Sister-in-law
- 3) GrandMother
- 4) Aunt
- 5) Mother-in-law

Answer : 3

Solution:

Akshay (Doctor) is husband of Shikha (Manager)

Sunil (Jeweller) is son of Akshay and Shikha

Aradhana (Lawyer) is wife of Sunil

Tanya (Engineer) and Babita (Psychologist) are children of Aradhana and Sunil

132) What is the profession of Akshay's son?

- 1) Jeweller
- 2) Psychologist
- 3) Manager
- 4) Doctor
- 5) Engineer

Answer : 1

Solution:

Akshay (Doctor) is husband of Shikha (Manager)

Sunil (Jeweller) is son of Akshay and Shikha

Aradhana (Lawyer) is wife of Sunil

Tanya (Engineer) and Babita (Psychologist) are children of Aradhana and Sunil

133) Find the value of $\sin^2 10^\circ + \sin^2 20^\circ + \sin^2 30^\circ + \dots + \sin^2 80^\circ$.

- A 2
B 3
C 1

D 4

E None of these

Answer: 4

Solution

Correct Option: D

We can rewrite above equation as

$$\sin^2 10 + \sin^2 80 + \sin^2 20 + \sin^2 70 + \sin^2 30 + \sin^2 60 + \sin^2 40 + \sin^2 50 \dots \text{equation (A)}$$

$$\text{We know that } \sin^2 x + \sin^2 (90 - x) = 1$$

Therefore equation A becomes

$$1 + 1 + 1 + 1 = 4$$

Hence, option D is correct.

134) In what ratio is the segment joining points (2, 3) and (-2, 1) divided by the Y-axis?

(a) 1 : 2

(b) 1 : 1

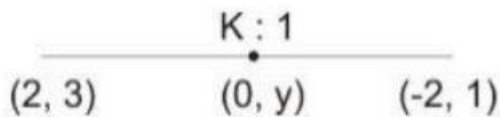
(c) 3 : 1

(d) 2 : 3

(e) None of these

Answer: 2

Solution:



Let the ratio be $k : 1$.

By section formula,

$$-2k + 2/k + 1 = 0$$

$$-2k + 2 = 0$$

$$K = 1$$

\therefore the ratio is 1 : 1

135) Provided $\log_{27} x + \log_3 x = 4$, then x is equal to:

A 14

B 17

C 27

D 35

E None of these

Answer 3

Solution:

Correct Option: C

$$\log_{27} x + \log_3 x = 4$$

$$\Rightarrow (\log x / \log 27) + (\log x / \log 3) = 4$$

$$\Rightarrow (\log x / 3 \log 3) + (\log x / \log 3) = 4$$

$$\Rightarrow \{(\log x + 3 \log x) / 3 \log 3\} = 4 \Leftrightarrow 4 \log x = 12 \log 3$$

$$\Leftrightarrow \log x = 3 \log 3 \Leftrightarrow \log x = \log (3^3) = \log 27 \Leftrightarrow x = 27.$$

Hence, option C is correct.

136) 101 154 213 274 341 412 ?

- 1) 436
- 2) 424
- 3) 444
- 4) 468
- 5) None of these

Answer: 5

Series Pattern Given Series

101	101
101 + 53 = 154	154
154 + 59 = 213	213
213 + 61 = 274	274
274 + 67 = 341	341
341 + 71 = 412	412
412 + 73 = 485	485

Direction (137-138) Arti, Bhavya, Chaitanya, Divya, Kavya, Lalit and Manasvi live in a seven floored building but not necessarily in the same order. The lowermost floor of the building is numbered one and the one above that is numbered two and so on. The top most floor is seven. Each one of them likes different games namely- table tennis, badminton, chess, volleyball, cricket, hockey and polo (not necessarily in the same order). Only three people live between Bhavya and Kavya. Bhavya lives on one of the floors above Kavya. Kavya does not live on the lowest most floor. Only one person lives in between Bhavya and the one who likes chess. Only two people live between Manasvi and the one who likes chess. The one who likes table tennis lives immediately above Manasvi. Arti lives immediately above Lalit. Arti does not like chess. The one who likes volleyball lives on one of the odd numbered floors below Lalit. Manasvi does not like volleyball. Divya lives on one of the floors above Chaitanya. One person lives between the one who likes hockey and the one who likes cricket. Divya does not like cricket. Manasvi does not like badminton.

137) How many live between Lalit and the one who likes Table tennis?

- 1) Two
- 2) One
- 3) Three
- 4) None
- 5) More than four

7	Bhavya	Badminton
6	Arti	Polo
5	Lalit	Chess
4	Divya	Hockey
3	Kavya	Table Tennis
2	Manasavi	Cricket
1	Chaitanya	Volleyball

138) On which floor does the one who likes playing cricket lives?

- A. 1st floor
- B. 7th floor
- C. 5th floor
- D. 6th floor
- E. 2nd floor

7	Bhavya	Badminton
6	Arti	Polo
5	Lalit	Chess
4	Divya	Hockey
3	Kavya	Table Tennis
2	Manasavi	Cricket
1	Chaitanya	Volleyball

139) M/AC:N/AD::O/AE:?

- 1) P/AF
- 2) Q/AB
- 3) P/AC
- 4) R/AD
- 5) None of these

Answer: 1

Explanation:

Observing the question we can deduce the analogy that the alphabets at the extremes are increasing by 1 and "/A" remains constant.

Therefore $O + 1 = P$, $E + 1 = F$

140) If $x : y = 5 : 6$, then $(3x - 2y) : (y - x)$ is

- 1) 7 : 6
- 2) 11 : 3
- 3) 3 : 1
- 4) 6 : 7
- 5) None of these

Answer: 3

Explanation:

it is given that $x : y = 5 : 6$

we need to find value of $(3x - 2y) : (y - x)$

Now divide $(3x - 2y)$ by y and divide $(y - x)$ by y also

we get , $\frac{3x}{y} - 2 : 1 - \frac{x}{y}$

use $x/y = 5/6$

$$(3x - 2y) : (y - x) = 3 : 1$$

141) 256 374 504 646 800 ?

- 1) 966
- 2) 848
- 3) 902
- 4) 874
- 5) None of these

Answer: 1

Series Pattern Given Series

256	256
256 + 118 =	374
374 + 130 =	504
504 + 142 =	646
646 + 154 =	800
800 + 166 =	966

142) In a class of 60 students, 40% are girls. The average weight of the boys is 62kg and that of the girls is 55kg. What is the average weight of the whole class?

- 1) 59.2 kg
- 2) 58.6 kg
- 3) 58.8 kg
- 4) 59 kg
- 5) 58

Answer: 1

Solution:

If 40% are girls, 40% of 60 = 24

Therefore, the number of girls = 24

Number of boys = 60 - 24 = 36

The average weight of boys = (total weight of boys) ÷ (no. of boys)

⇒ 62 = total weight / 36

⇒ Total weight = 62 x 36 = 2232

The average weight of girls = (total weight of girls) ÷ (number of girls)

⇒ 55 = total weight / 24

⇒ Total weight = 55 x 24 = 1320

For whole class, total weight = 1320 + 2232 = 3552

Hence, average weight of whole class = 3552 ÷ 60 = 59.2 kg

Direction (143-145) Seven friends, namely Lalit, Manav, Nitin, Ojaswi, Zaheer, Vijay and Rishab, have a different car, namely Audi, Toyota, Renault, Ford, Maruti, Honda and Skoda, but not necessarily in the same order. Each car is of a different colour, namely Red, Blue, White, Brown, Black, Grey and Yellow but not necessarily in the same order. The colour of Vijay's car is Red and he has neither Renault nor Ford car. The Audi car is of Blue colour. Lalit has Toyota car and the colour of his car is neither Brown nor Black. The Skoda car is of Yellow colour. The colour of Manav's car is Grey. Manav does not have a Ford car. Ford car is not of black in colour. Ojaswi has Maruti car. The colour of Rishab's car is not Blue. Rishab does not have a Ford car. Zaheer does not have a Ford car.

143) Which car does Lalit own?

- 1) Ford
- 2) Maruti
- 3) Toyota
- 4) Skoda
- 5) Honda

Lalit	White	Toyota
Manav	Grey	Renault
Nitin	Brown	Ford
Ojaswi	Black	Maruti
Zaheer	Blue	Audi
Vijay	Red	Honda
Rishab	Yellow	Skoda

144) Which among the given combinations are correct?

- 1) Manav - grey - Toyota
- 2) Ojaswi - brown - Toyota
- 3) Rishab - Red - Honda
- 4) Vijay - Red - Honda
- 5) Nitin - grey – Ford

Lalit	White	Toyota
Manav	Grey	Renault
Nitin	Brown	Ford
Ojaswi	Black	Maruti
Zaheer	Blue	Audi
Vijay	Red	Honda
Rishab	Yellow	Skoda

145) What is the colour of the car that Zaheer owns?

- 1) Blue
- 2) Grey
- 3) White
- 4) Black
- 5) Brown

Lalit	White	Toyota
Manav	Grey	Renault
Nitin	Brown	Ford
Ojaswi	Black	Maruti
Zaheer	Blue	Audi
Vijay	Red	Honda
Rishab	Yellow	Skoda

Directions (146-147): Study the data given below and answer the following questions:

In a certain code language 'speak the truth' is written as 'kp lp ts'. 'Always seek knowledge' is written as 'bs tm nk', 'knowledge is truth' is written as 'tm ts sk' and the code for 'never seek violence' is 'lk bs zp'

146) What will be the code for 'Always'?

- 1) Nk
- 2) Tm
- 3). Kp
- 4) Either 'nk' or 'tm'
- 5) Zp

Answer : 1

Solution

Kp - speak / the

Lp - speak / the

Ts - truth

Bs - seek

Tm - knowledge

Nk - always

Sk - is

Lk - never / violence

Zp - never / violence

147) What will be the code for 'sk bs tm'?

- 1) Truth seek is
- 2) Seek is knowledge
- 3) Knowledge is truth
- 4) Always truth is
- 5) None of the above

Answer : 1

Solution

Kp - speak / the

Lp - speak / the

Ts - truth

Bs - seek

Tm - knowledge

Nk - always

Sk - is

Lk - never / violence

Zp - never / violence

148) Read the information given below carefully and answer the question.

X is brother of Z

P is daughter of Z

Y is sister of X

Q is the brother of P

How is Y related to Z?

- 1) Sister-in-law
- 2) Brother
- 3) Aunt
- 4) Sister
- 5) Brother-in-law

Answer 4

Solution

Y is the sister of both X and Z.

149) There are five students - P, Q, R, S and T having different heights in a class. P's height is more than only one student. Q's height is more than S and P but not more than R. S's height is more than P. R is not the smallest. Who is having the maximum height in the class?

Options:

- 1) Q
- 2) R
- 3) S
- 4) T
- 4) None of these

Answer: R

Solution:

RQSPT

150) Hitesh, Sunny, Vicky, Nitin and Bharat are arranged in ascending order of the height from the top. Hitesh is at third place. Bharat is between Nitin and Hitesh while Nitin is not at the bottom. Who has the maximum height among them?

Options:

- 1) Hitesh
- 2) Sunny
- 3) Vicky
- 4) Nitin
- 5) None of these

Answer: Nitin

Solution

Nitin

Bharat

Hitesh

Sunny/Vicky

Sunny/Vicky

151) What is the value of 125% of 25% of 80?

- 1) 50
- 2) 25
- 3) 20
- 4) 40
- 5) None of these

Answer: 2

Solution :

125% of 25% of 80

$$= (125/100) \times (25/100) \times 80$$

$$= 25$$

152) A shopkeeper marks his goods at 40% more than their cost price and allows a discount of 25% on the marked price. His gain percent is:

- 1) 5% loss

- 2) 10% loss
- 3) 5% gain
- 4) 15% gain
- 5) None of these

Answer: 3

Solution:

Let the cost price be Rs. x

Marked price = $x + (40\% \text{ of } x)$

= $140x/100$

= Rs. $7x/5$

Discounted price (or selling price) = $7x/5 - (25\% \text{ of } 7x/5)$

= $(7x/5) - (7x/20)$

= Rs. $21x/20$

Gain = SP - CP

= $(21x/20) - x$

= Rs. $x/20$

Gain % = $(\text{Gain}/\text{CP}) \times 100$

= $(x/20x) \times 100$

= 5%

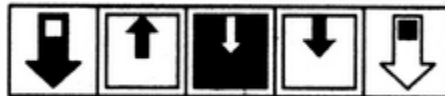
153) Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures:



(A) (B) (C) (D)

Answer Figures:



(1) (2) (3) (4) (5)

- 1) 1
- 2) 2
- 3) 3
- 4) 4
- 5) 5

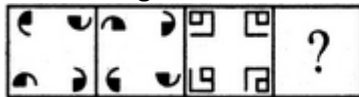
Answer: 4

Explanation:

The smaller element gets enlarged. The larger element reduces in size; gets vertically inverted; moves inside the other element and gets attached to its upper end.

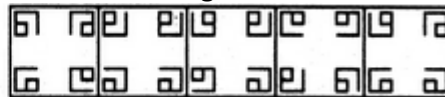
154) Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures:



(A) (B) (C) (D)

Answer Figures:



(1) (2) (3) (4) (5)

- 1) 1

2) 2

3) 3

4) 4

5) 5

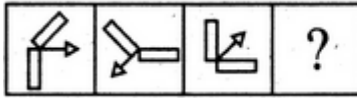
Answer: 3

Explanation:

The upper-left and the lower-right elements rotate 90°CW while the upper-right and the lower-left elements rotate 90°ACW .

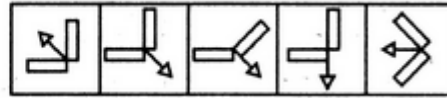
155) Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures:



(A) (B) (C) (D)

Answer Figures:



(1) (2) (3) (4) (5)

1) 2

2) 1

3) 3

4) 4

5) 5

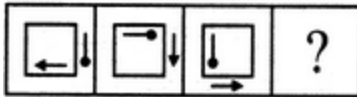
Answer: 4

Explanation:

The arrow rotates 135°CW and the remaining part of the figure rotates 90°ACW .

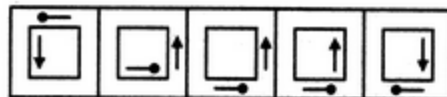
156) Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures:



(A) (B) (C) (D)

Answer Figures:



(1) (2) (3) (4) (5)

1) 1

2) 2

3) 3

4) 4

5) 5

Answer: 4

Explanation:

The outer element rotates 90°ACW; moves to the adjacent side of the square in an ACW direction and shifts inside the square. The inner element rotates 90°ACW; moves to the adjacent side of the square in an ACW direction and shifts outside the square.

157) Select the wrongly spelt word.

- 1) Practicle
- 2) Flexible
- 3) Flashy
- 4) Elegant
- 5) None of these

Answer: 1

158) In the following question, out of the four alternatives, select the word opposite in meaning to the word given.

Impugnable

- 1) Dicey
- 2) Debatable
- 3) Indubious
- 4) Hazy
- 5) None of these

Answer: 3

159) The problem of perception can be compounded by the failure of parents and teachers to

-
- 1) provide treatment
 - 2) recognize the condition
 - 3) correct the child at infancy
 - 4) understand the child
 - 5) None of these

Answer: 2

Directions Q. (160 - 163): A passage is given with 5 questions following it. Read the passage carefully and choose the best answer to each question out of the four alternatives.

Dyslexia is a perceptual disorder often occurring in persons of normal, or even above-average intelligence. The reader is unable to perceive correctly what is on a page. Letters and numbers often appear reversed: "b" seems to be "d", "quite" is "quiet" and "from" is "form". The reader tends to leave out letters or words or insert words or letters that are not there. Vowel and consonant sounds may be confused. Many dyslexics are lefthanded or able to write with either hand. They often confuse left and right. Learning to speak may also be delayed beyond infancy. The condition seems to be inherited. It may persist into adulthood. However, with early recognition and specialized approaches to teaching reading, most dyslexics can learn to read. Some researchers believe that latent dyslexia may be aggravated by the way reading is taught. The modern whole-word, or look and say method seems to be more of a hindrance to learning for dyslexics than it is for ordinary pupils. The phonetic method of teaching students to learn letters and sound them out appears to achieve better reading results. The problem of words that cannot be sounded out such as rough, laugh or through is not solved by phonetics. These words must simply be memorized. However, for

children with dyslexia, the problem can be compounded by the failure of parents or teachers to recognize the condition. This can easily lead to emotional problems for dyslexic children, who cannot understand their failure to keep up with their classmates.

160) Dyslexia, often occurring in persons of normal, or even above average intelligence, is a _____

- 1) Conceptual disorder
- 2) Pathological disease
- 3) Perceptive disorder
- 4) Perceptual disorder
- 5) None of these

Answer: 4

161) In Dyslexia, letters and figures often appear _____

- 1) Inverted
- 2) Blurred
- 3) Reversed
- 4) Clustered
- 5) None of these

Answer: 3

162) People suffering from dyslexia are often _____

- 1) right handed
- 2) far sighted
- 3) Ambidextrous
- 4) only left handed
- 5) None of these

Answer: 3

163) Dyslexia may _____

- 1) be noticed during infancy
- 2) last till childhood
- 3) persist into adulthood
- 4) end when one goes to school
- 5) None of these

Answer: 3

164): In each of the following questions, a question is followed by two statements. You have to select a statement that answers the question. Mark your answer as:

- 1) If the data in statement I alone is sufficient to answer the question while the data in statement II alone is not sufficient to answer the question.
- 2) If the data in statement II alone are sufficient to answer the question while the data in statement I alone is not sufficient to answer the question.
- 3) If the data either in statement I alone or in statement II alone is sufficient to answer the question.
- 4) If the data in both statements I and II together are not sufficient to answer the question.
- 5) If the data in both statements I and II together are necessary to answer the question.

Six girls A, B, C, D, E and F are sitting around a circular table with an equal distance between them.

If all the girls are facing the centre, then who is sitting opposite to F?

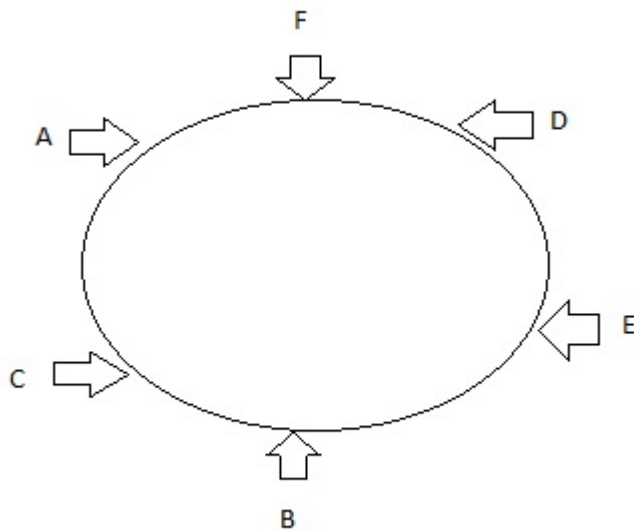
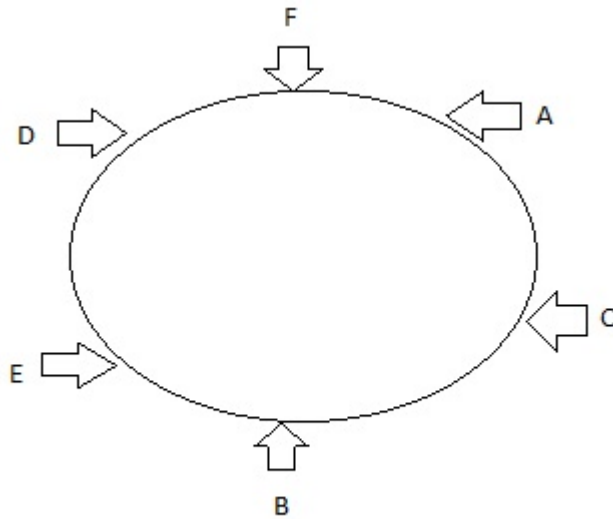
Answer: 3 (If the data either in statement I alone or in statement II alone is sufficient to answer the question)

Solution:

F is sitting between A and D while E is sitting adjacent to B and D.

A is adjacent to both F and C while B is sitting adjacent to C.

As per the question, we get the following two arrangements:



Therefore, either from statement I or statement II alone, we can conclude that B is sitting opposite to F. Thus, the data either in statement I alone or in statement II alone are sufficient to answer the question.

165) Select the odd number from the given alternatives.

1) 15

- 2) 20
- 3) 40
- 4) 60
- 5) 50

Answer: 1

Solution: Except 15, all other numbers are divisible by 20.

166) If QUICKLY is coded as OSGAIJW, then how will HUE be coded as?

- 1) ZMA
- 2) FSC
- 3) HZK
- 4) HNI
- 5) None of these

Answer: 2

Solution

H - 2 = F

U - 2 = S

E - 2 = Thus, missing term = XYW

167) When a number is increased by 120, it becomes 130% of itself. What is the number?

- 1) 400
- 2) 520
- 3) 460
- 4) 580
- 5) None of these

Answer: 1

Solution:

Let the number be x

According to question,

$$x + 120 = (130/100) x$$

$$x + 120 = (13/10) x$$

$$x = 40 \times 10$$

$$x = 400$$

168) What is the area (in sq cm) of a circle whose circumference is 22 cm?

- 1) 77
- 2) 38.5
- 3) 44
- 4) 88

Solution

$$H - 2 = F$$

$$U - 2 = S$$

$$E - 2 = \text{Thus, missing term} = XYW$$

169) When a number is increased by 120, it becomes 130% of itself. What is the number?

- 1) 400
- 2) 520
- 3) 460

- 4) 580
5) None of these

Answer: 2

Solution:

Circumference of a circle = 22cm

Therefore, $2\pi r = 22$

$$R = (22 \times 7) / (2 \times 22)$$

$$R = 3.5 \text{ cm}$$

Area of circle = πr^2

$$2 = 22/7 \times 3.5 \times 3.5 = 38.5 \text{ cm}^2$$

170) What is the fourth proportional to 24, 120 and 22?

- 1) 110
2) 120
3) 100
4) 90
5) None of these

Answer: 1

Solution:

$$24: 120:: 22: x$$

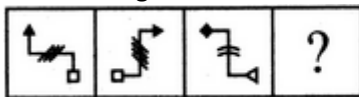
$$\Rightarrow x = (22 \times 120) / 24$$

$$\Rightarrow x = 110$$

171)

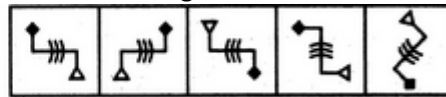
Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures:



(A) (B) (C) (D)

Answer Figures:



(1) (2) (3) (4) (5)

- 1) 2
2) 3
3) 4
4) 5
5) 1

Answer: Option 1

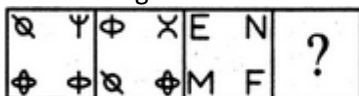
Explanation:

The figure rotates 90°CW and the number of straight lines or arcs at the centre increases by one.

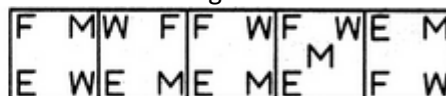
172)

Select a suitable figure from the Answer Figures that would replace the question mark (?).

Problem Figures:



Answer Figures:



- | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| (A) | (B) | (C) | (D) | (1) | (2) | (3) | (4) | (5) |
| 1) | 1 | | | | | | | |
| 2) | 2 | | | | | | | |
| 3) | 3 | | | | | | | |
| 4) | 4 | | | | | | | |
| 5) | 5 | | | | | | | |

Answer: Option 3

Explanation:



The symbols move in the sequence and the symbol at the encircled position gets replaced by a new one.

173) A is D's brother. D is B's father. B & C are sisters. How is C related to A?

- 1) Cousin
- 2) Niece
- 3) Aunt
- 4) Nephew
- 5) None of these

Answer: 2

Solution: D is B's father and B & C are sisters

Therefore, B and C are the daughters of D (male).

Also, A is D's brother

Hence, A is the uncle of B and C.

Thus, C is A's niece.

174) In the following question, select the related word from the given alternatives.

Car : Road :: Ship : ?

- 1) Water
- 2) Air
- 3) Road
- 4) Both Air and Water
- 5) None of these

Answer: Water

175) Four words have been given, out of which three are alike in some manner and one is different.

Select the odd word.

- 1) Cancer
- 2) Asthma
- 3) Diabetes
- 4) Bone Marrow
- 5) None of these

Answer: 4

Explanation:

Except option 4, remaining all are diseases

176)

Which statement is required to derive the conclusion - 'No shot is a kick'?

Statement I : All shots are goals.

Statement II : No kick is a shot.

- 1) If the data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.
- 2) If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.
- 3) If the data either in statement I alone or in statement II alone is sufficient to answer the question.
- 4) If the data in both statement I and II together are not sufficient to answer the question.
- 5) If the data in both statement I and II together are necessary to answer the question.

Answer: 2

Checking Statement I:

Statement I: All shots are goals.

Reference:

'All shots are goals.'

Inference:

Here, we can observe that the class 'kick' is missing in the given statment and therefore one can't reach the desired conclusion.

Clearly, Statement I alone is not sufficient to get the desired conclusion.

Checking Statement II:

Statement II: No kick is a shot.

Reference:

No kick is a shot.

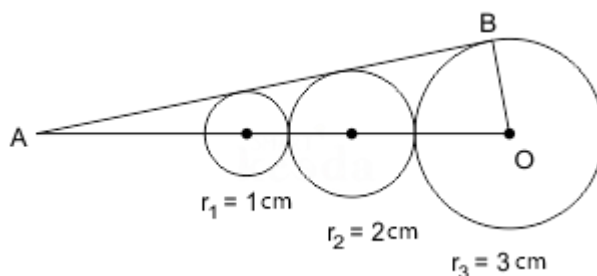
Inference:

Converse of Statement II: No shot is a kick.

Clearly, Statement II alone is sufficient to answer the question.

177)

In the figure below, find the value of AB.

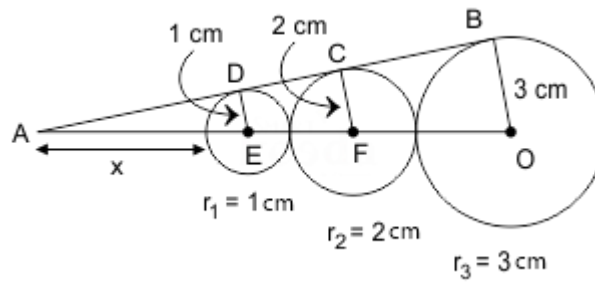


a) $\sqrt{111}$

- b) $\sqrt{112}$
- c) $\sqrt{113}$
- d) $\sqrt{114}$
- e) $\sqrt{115}$

Correct Option: B

We can redraw the given figure as below-



As angle A is common to both $\triangle ADE$ and $\triangle ACF$ and also $\angle C = \angle D = 90^\circ$

Therefore, $\triangle ADE \sim \triangle ACF$

Therefore, ratio of sides will be same as given below-

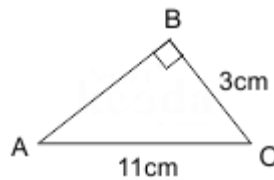
$$\frac{x+1}{x+4} = \frac{1}{2}$$

$$2x + 2 = x + 4$$

$$\text{Or, } x = 2 \text{ cm}$$

$$\therefore AO = 2 + 1 + 1 + 2 + 2 + 3 = 11 \text{ cm}$$

Consider following right-angled triangle,



$$AB^2 = 11^2 - 3^2$$

$$AB^2 = 121 - 9$$

$$AB = \sqrt{112} \text{ cm}$$

Hence, option B is correct.

178) Simple Interest received by a person in 10 years on a principal of Rs 9500 is 130% of the principal. What is the rate of interest (in %) per annum?

- 1) 11
- 2) 12
- 3) 19
- 4) 13
- 5) None of these

Answer: 4

Solution:

Time period = 10 years

Principal = Rs. 9500

Simple Interest = 130% of 9500 = Rs. 12350

Simple interest = $(P \times R \times T) / 100$

$$12350 = (9500 \times R \times 10) / 100$$

$$R = (12350) / (95 \times 10)$$

$$R = 13\%$$

179) Mohit buys an old bicycle for Rs 2700 and spends Rs 500 on its repairs. If he sells the bicycle for Rs 3520, then what is his profit percentage?

- 1) 10
- 2) 12.5
- 3) 15
- 4) 20
- 5) None of these

Answer: 1

Solution:

Cost price of bicycle = Rs. (2700+500) = Rs. 3200

Selling price of bicycle = Rs. 3520

$$\text{profit\%} = \{(S.P. - C.P.) / C.P.\} \times 100$$

$$\text{Profit\%} = (320 / 3200) \times 100$$

$$\text{Profit \%} = 10\%$$

180) The flight fare between two cities is increased in the ratio 11:13. What is the increase (in Rs) in the fare, if the original fare was Rs 12100?

- 1) 14300
- 2) 2200
- 3) 22000
- 4) 1430
- 5) None of these

Answer: 2

Solution:

Original fare = Rs. 12100

$$11x = 12100$$

$$x = 12100 / 11 = 1100$$

$$\text{New fare} = 13x = 13 \times 1100 = \text{Rs. } 14300$$

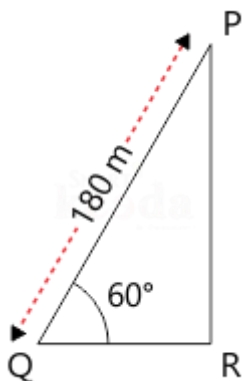
$$\text{Increase in fare} = 14300 - 12100 = 2200$$

181)

One flies a kite with a thread 180 meter long. If the thread of the kite makes an angle of 60° with the horizontal line, then the height of the kite from the ground (assuming thread to be in straight line) is

- a) 50
- b) $90\sqrt{3}$
- c) $75\sqrt{3}$
- d) 90
- e) 60

Correct Option: B



AB = length of thread = 180 meter

$\angle PQR = 60^\circ$

In ΔPQR

$$\sin 60^\circ = \frac{PR}{PQ} = \frac{\sqrt{3}}{2} = \frac{PR}{180}$$

$$\text{so, } \frac{PR}{180} = \frac{\sqrt{3}}{2}$$

$$PR = 180 \times \frac{\sqrt{3}}{2} = 90\sqrt{3}$$

Hence, option B is correct.

182)

If $\cos^4 A - \sin^4 A = p$, then find the value of p.

☐ A $2 \cos^2 A - 1$

☐ B $2 \cos^2 A + 1$

☐ C $\cos^2 A - 1$

☐ D $\cos^2 A + 1$

E. None of these

Correct Option: A

we know, $a^2 - b^2 = (a + b)(a - b)$

$$\Rightarrow (\cos^2 A)^2 - (\sin^2 A)^2 = (\cos^2 A + \sin^2 A)(\cos^2 A - \sin^2 A)$$

$$\Rightarrow \{\cos^2 A - (1 - \cos^2 A)\} \quad [\text{using, } \sin^2 A + \cos^2 A = 1]$$

$$\Rightarrow 2 \cos^2 A - 1$$

Hence, option A is correct.

Direction(183-187) : K, L, M, N, P, Q, R, S, U and W are the only ten members in a department. There is a proposal to form a team from within the members of the department, subject to the following conditions:

1. A team must include exactly one among P, R and S.
2. A team must include either M or Q, but not both.
3. If a team includes K, then it must also include L, and vice versa.
4. If a team includes one among S, U and W, then it should also include the other two.
5. L and N cannot be members of the same team.
6. L and U cannot be members of the same team.

The size of a team is defined as the number of members in the team.

183) What could be the size of a team that includes K?

- 1) 2 or 3
- 2) 2 or 4
- 3) 3 or 4
- 4) Only 2
- 5) Only 4

Answer: 5

Explanation:

A team which has K should have L also.

Since L is there in the team, N and U should not be there in the team. Since U is not there in the team, S and W should not be there in the team.

So, the team will have K, L, one of P and R and one of M or Q.

So, the team size will be 4.

184) In how many ways a team can be constituted so that the team includes N?

- 1) 2
- 2) 3
- 3) 4
- 4) 5

5) 6

Answer: 5

Explanation:

Since N is in the team, L and K cannot be in the team.

The team can have one of M and Q. So, 2 ways of selection.

If the team has S, then it should have U and W as well.

If the team has no S, then it should have one of P or R.

So, the number of ways of forming the team is $2 \times (1+2) = 6$ ways

185) What would be the size of the largest possible team?

1) 8

2) 7

3) 6

4) 5

5) cannot be determined

Answer: 4

Explanation:

Out of P, R and S only 1 can be in the team. If S is there, U and W will also be there. So, P and R should not be in the team for its size to

be maximum.

Out of M and Q, only 1 can be there.

If L is there in the team, N and U cannot be in the team.

If L is not there in the team, then K is also not there in the team but N and U can be in the team.

So, the maximum team size is 5 consisting of S, U, W, (M or Q), N.

186) Who can be a member of a team of size 5?

1) K

2) L

3) M

4) P

5) R

Answer: 3

Explanation:

Out of P, R and S only 1 can be in the team. If S is there, U and W will also be there. So, P and R should not be in the team for its size to

be maximum.

Out of M and Q, only 1 can be there.

If L is there in the team, N and U cannot be in the team.

If L is not there in the team, then K is also not there in the team but N and U can be in the team.

So, the maximum team size is 5 consisting of S, U, W, (M or Q), N.

So, M can be a member of team size 5.

187) Who cannot be a member of a team of size 3?

1) L

2) M

3) N

4) P

5) Q

Answer: 1

Explanation:

80 If L is in the team, the team should include K also. The team should have one among P, R and S and one among M and Q. So, the team size cannot be 3 if L is in the team.

188)

If $x^4 + \frac{1}{x^4} = 322$, and

$x > 1$ then the value of $x^3 - \frac{1}{x^3}$ is

a) 76

b) 54

- c) 66
- d) 34
- e) 59

Correct Option: A

$$x^4 + \frac{1}{x^4} = 322 \quad [x > 1] \text{ given}$$

We know that, $[(a + b)^2 = a^2 + b^2 + 2ab]$ Or, $[(a + b)^2 - 2ab = a^2 + b^2]$

$$\text{So, } \left(x^2 + \frac{1}{x^2}\right)^2 - 2 \times x^2 \times \frac{1}{x^2}$$

$$= x^4 + \frac{1}{x^4}$$

$$\text{Or, } \left(x^2 + \frac{1}{x^2}\right)^2 = 322 + 2$$

$$\left(x^2 + \frac{1}{x^2}\right)^2 = \pm 18$$

$$\text{Also, } \left(x^2 - \frac{1}{x^2}\right)^2 + 2 \times x^2 \times \frac{1}{x^2}$$

$$= x^4 + \frac{1}{x^4}$$

$$\left(x^2 - \frac{1}{x^2}\right)^2 + 2 = 18$$

$$[\because (a - b)^2 + 2ab = a^2 + b^2]$$

$$\left(x - \frac{1}{x}\right) = \pm 4$$

Now, Cubbing both sides, we get

$$x^3 - \frac{1}{x^3} - 3 \times x \times \frac{1}{x} \left(x - \frac{1}{x}\right) = 64$$

$$\text{Or, } x^3 - \frac{1}{x^3} - 3(4) = 64$$

$$x^3 - \frac{1}{x^3} = 12 + 64$$

$$\left(x^3 - \frac{1}{x^3}\right) = 76$$

Hence, option A is correct.

189) If the diameter of a sphere is 14 cm, then what is the surface area (in cm²) of the sphere?

- 1) 616 cm²
- 2) 308 cm²
- 3) 462 cm²
- 4) 636 cm²
- 5) None of these

Answer: 1

Solution :

The diameter of a sphere = 14 cm

Radius = 14 / 2 = 7cm

The surface area of sphere = $4\pi r^2$

$$2 = 4 \times (22/7) \times (7)$$

$$2 = 616 \text{ cm}^2$$

190) Rs 3200 is divided among A, B and C in the ratio of 3: 5: 8 respectively. What is the difference (in Rs) between the share of B and C?

- 1) 400
- 2) 600
- 3) 800
- 4) 900
- 5) None of these

Answer: 2

Solution :

Total amount = Rs.3200

A:B:C = 3:5:8

$$3x+5x+8x = 3200$$

$$16x = 3200$$

$$x = 200$$

$$\text{A's share} = 3 \times 200 = 600$$

$$\text{B's share} = 5 \times 200 = 1000$$

$$\text{C's share} = 8 \times 200 = 1600$$

$$\text{Difference between B and C's share} = 1600 - 1000 = 600$$

191) What is the area (in sq cm) of a rhombus if the lengths of its diagonals are 25 cm and 20 cm?

- 1) 500
- 2) 250
- 3) 125
- 4) 200
- 5) None of these

Answer: 2

Solution:

Length of diagonal 1 of rhombus = 25 cm

Length of diagonal 2 of rhombus = 20 cm

Area of rhombus = $(25 \times 20) / 2 = 250 \text{ cm}^2$

192) A truck travels 36 km North, then it turns West and travels 9 km, then it turns South and travels 50 km, then it turns to its left and travels 9 km. Where is it now with reference to its starting position?

- 1) 14 km North
- 2) 86 km South
- 3) 86 km North
- 4) 14 km South
- 5) None of these

Answer : 1

Solution:



Directions: Find the next term in the given series.

193) 379 390 412 445 ? 544

- 1) 462
- 2) 511
- 3) 538
- 4) 489
- 5) 504

Answer 4

Series Pattern Given Series

379

379

$379 + 11 = 390$ 390
 $390 + 22 = 412$ 412
 $412 + 33 = 445$ 445
 $445 + 44 = 489$ 489
 $489 + 55 = 544$ 544

194) 8 72 576 4032 24192 ?

- 1) 110960
- 2) 140250
- 3) 90624
- 4) 120960
- 5) 98248

Answer: 4

Series Pattern	Given Series
8	8
$8 \times 9 = 72$	72
$72 \times 8 = 576$	576
$576 \times 7 = 4032$	4032
$4032 \times 6 = 24192$	24192
$24192 \times 5 = 120960$	120960

195) 468 516 984 1500 2484 ?

- 1) 3984
- 2) 4884
- 3) 2784
- 4) 2824
- 5) 3874

Answer: 1

Series Pattern	Given Series
468	468
516	516
$516 + 468 = 984$	984
$984 + 516 = 1500$	1500
$1500 + 984 = 2484$	2484
$2484 + 1500 = 3984$	3984

196) - In the following question, select the related word from the given alternatives.

Vacant : Empty :: Dearth : ?

- 1) Descend
- 2) Scarcity
- 3) Squander
- 4) Abundant
- 5) None of these

Answer: Scarcity

197) In each of the following question below are given some statements followed by some conclusions. Taking the given statements to be true even if they seem to be at variance from commonly known facts, read all the conclusions and then decide which of the given conclusion

logically follows the given statements.

Statements:

- I. All insects are dangerous.
- II. All machines are dangerous.

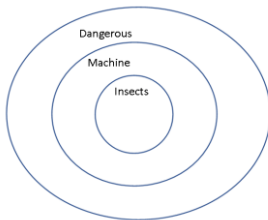
Conclusions:

- I. All dangerous are insects.
- II. All dangerous are machines.
- III. Some machines are insects.

- 1) Only conclusion (I) follows.
- 2) Only conclusion (II) follows.
- 3) Only conclusion (III) follows.
- 4) No conclusion follows.
- 5) Either I or II follow

Answer: No conclusion follows.

Solution :



198) - Which one is the largest among the fractions (5/113), (7/120), (13/145) and (17/160)?

- 1) 5/113
- 2) 7/120
- 3) 13/145
- 4) 17/160
- 5) None of these

Answer: 17/160

199) - In the following question, correct the given equation by interchanging two numbers.

$$8 \times 3 \div 4 + 9 - 5 = 16$$

- 1) 3 and 4
- 2) 4 and 8
- 3) 5 and 3
- 4) 5 and 9
- 5) None of these

Answer: 5 and 3

200) Select the word which means the same as the given group of words.

A sudden rush of a large number of frightened people or animals.

- 1. Stampede
- 2. Lunacy

- 3. Scapegoat
- 4. Recluse
- 5. None of these

Answer 1