SSC CPO 3 July 2017 Afternoon Shift

Reasoning

Instructions

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

Question 1

Car : Road : : Rail : ?

A Water

B Air

C Road

D Track

Answer: D

Explanation:
First travels on second, car runs on the road, while a rail on a **track.**

=> Ans - (D)

Question 2

Light : Lumen : : ? : ?

A Temperature : Candela

B Density : Kilogram

C Pressure : Pascal

D Force : Meter

Answer: C

Explanation:
Second is S.I. unit of first, i.e. Lumen is unit of light, similarly S.I. unit of pressure is **Pascal.**

=> Ans - (C)

Instructions

In the following question, select the related letters from the given alternatives.

Question 3

BGMR : DIOT : : SNOV : ?

A UPXQ

B QPUX

C UMPW

D UPQX

Answer: D

Explanation:
Expression = BGMR : DIOT : : SNOV : ?

The pattern followed is :

B	G	M	R
(+2)	(+2)	(+2)	(+2)
D	I	O	T

Similarly, for SNOV : **UPQX**

S	N	O	V
(+2)	(+2)	(+2)	(+2)
U	P	Q	X

=> Ans - (D)

Question 4

UVWX : YYYY : : ABCD : ?

A YYYY

B EEEE

C DDDD

D FFFF

Answer: B

Explanation:
Expression = UVWX : YYYY : : ABCD : ?

The letters in the second term are same, which follows the consecutive alphabets from the English alphabetical order.

Eg :- 'Y' follows UVWX

Similarly, after ABCD, we have **E**

=> ABCD : **EEEE**

=> Ans - (B)

Instructions

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

Question 5

12 : 156 : : 14 : ?

A 195

B 205

C 208

D 210

Answer: D

Explanation:
Expression = 12 : 156 : : 14 : ?

The pattern followed is = $(n)^2 + n$

Eg :- $(12)^2 + 12 = 144 + 12 = 156$

Similarly, $(14)^2 + 14 = 196 + 14 = 210$

=> Ans - (D)

Question 6

102 : 10404 : : 104 : ?

A 10202

B 10404

C 10804

D 10816

Answer: D

Explanation:
Expression = 102 : 10404 : : 104 : ?

The pattern followed is = $n : (n)^2$

Eg :- $(102)^2 = 1040$

Similarly, $(104)^2 = 10816$

=> Ans - (D)

Instructions

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

Question 7

A Lemon

B Carrot

C Beetroot

D Turnip

Answer: A

Explanation:
Carrot, beetroot and turnip are the vegetables that grow under the ground, while **lemons** are grown in trees.

=> Ans - (A)

Question 8

A Sentence

B Letter

C Word

D Paragraph

Answer: B

Explanation:
Sentence, word and paragraph are made from letters or combination of letters, hence **letter** is the odd one out.

=> Ans - (B)

Instructions

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

Question 9

A ADG

B CFI

C JMQ

D SVY

Answer: C

Explanation:
(A) : A (+3 letters) = D (+3 letters) = G

(B) : C (+3 letters) = F (+3 letters) = I

(C) : J (+3 letters) = M (**+4** letters) = Q

(D) : S (+3 letters) = V (+3 letters) = Y

=> Ans - (C)

Question 10

A DWEV

B HSIR

C KPLO

D PKQI

Answer: D

Explanation:
In the first three options, the alternate letters are pairs of consecutive alphabets according to the English alphabetical order.

Eg :- DWEV : (DE), (WV)

But, in the last option, K and I are not consecutive pairs, hence it is the odd one out.

=> Ans - (D)

Instructions

In the following question, select the odd number pair from the given alternatives.

Question 11

A 17 - 12

B 29 - 14

C 21 - 16

D 31 - 26

Answer: B

Explanation:
The difference between the numbers is 5.

(A) : $17 - 12 = 5$

(B) : $29 - 14 = 15 \neq 5$

(C) : $21 - 16 = 5$

(D) : $31 - 26 = 5$

=> Ans - (B)

Question 12

A 3 - 27

B 7 - 49

C 5 - 125

D 6 - 216

Answer: B

Explanation:
The pattern followed is that second number is **cube** of first number.

(A) : $(3)^3 = 27$

(B) : $(7)^2 = 49$

(C) : $(5)^3 = 125$

(D) : $(6)^3 = 216$

=> Ans - (B)

Instructions

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

Question 13

1. Mobile
2. Manage
3. Merger
4. Merged
5. Mango

A 25341

B 25431

C 24351

D 54132

Answer: B

Explanation:
As per the order of dictionary,

= Manage -> Mango -> Merged -> Merger -> Mobile

$\equiv$ 25431

=> Ans - (B)

Question 14

Arrange the given words in the sequence in which they occur in the dictionary.
1. Strain
2. Storm
3. Stark
4. Stored
5. Stamp

A 54312

B 53421

C 53412

D 54321

Answer: B

Explanation:
As per the order of dictionary,

= Stamp -> Stark -> Stored -> Storm -> Strain

$\equiv$ 53421

=> Ans - (B)

Instructions

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

Question 15

AD, CE, EF, GG, ?

A II

B IH

C HI

D IJ

Answer: B

Explanation:
Expression : AD, CE, EF, GG, ?

The pattern followed in each letter of the terms is :

1st letter : A (+2 letters) = C (+2 letters) = E (+2 letters) = G (+2 letters) = **I**

2nd letter : D (+1 letter) = E (+1 letter) = F (+1 letter) = G (+1 letter) = **H**

Thus, missing term = **IH**

=> Ans - (B)

Question 16

AZ, DY, IX, PW, ?

A YY

B YV

C WV

D VV

Answer: B

Explanation:
Expression : AZ, DY, IX, PW, ?

The pattern followed in each letter of the terms is :

1st letter : A (+3 letters) = D (+5 letters) = I (+7 letters) = P (+9 letters) = **Y**

2nd letter : Z (-1 letter) = Y (-1 letter) = X (-1 letter) = W (-1 letter) = **V**

Thus, missing term = **YV**

=> Ans - (B)

Instructions

In the following question, select the missing number from the given series.

Question 17

7, 10, 14, 19, 25, ?

A 32

B 36

C 38

D 40

Answer: A

Explanation:
Consecutive integers starting from 3 are added.

7 + 3 = 10

10 + 4 = 14

14 + 5 = 19

19 + 6 = 25

25 + 7 = **32**

=> Ans - (A)

Question 18

1, 7, 3, 9, 6, 12, 10, 16, 15, ?

A 18

B 15

C 20

D 21

Answer: D

Explanation:
Series : 1, 7, 3, 9, 6, 12, 10, 16, 15, ?

There are 2 series at alternate positions, in which consecutive integers starting from 2 are added.

Series are : (1,3,6,10,15) and (7,9,12,16,?)

1st : 1 (+2) = 3 (+3) = 6 (+4) = 10 (+5) = 15

2nd : 7 (+2) = 9 (+3) = 12 (+4) = 16 (+5) = **21**

=> Ans - (D)

Instructions
For the following questions answer them individually

Question 19

Mohini is taller than Nita but shorter than Sarita. Sarita and Malini are of same height. Mohini is shorter than Hema. Among them, who is the second tallest?

A Mohini

B Nita

C Hema

D Cannot be determined

Answer: D

Explanation:
Mohini is taller than Nita but shorter than Sarita, => Sarita > Mohini > Nita

Sarita and Malini are of same height, => Sarita = Malini

Mohini is shorter than Hema, => Hema > Mohini

∴ **Malini = Sarita > Mohini > Nita**

Now, second tallest can be either Malini, Sarita or Hema, hence it cannot be determined.

=> Ans - (D)

Question 20

Present age of Saksham is one third of his father's present age. 5 years ago Saksham's father's age was half the age of Saksham's grandfather. If Saksham's grandfather will celebrate his 88th birthday after 3 years, then what is the present age (in years) of Saksham?

A 18

B 15

C 16

D 20

Answer: B

Explanation:
Saksham's grandfather's present age = $88 - 3 = 85$ years

Saksham's grandfather's age 5 years ago = 80 years

=> Saksham's father's age 5 years ago = $\frac{80}{2} = 40$ years

Thus, Saksham's father's present age = $40 + 5 = 45$ years

∴ Present age (in years) of Saksham = $\frac{45}{3} = 15$ years

=> Ans - (B)

Question 21

If 'P 3 Q' means 'P is daughter of Q', 'P 5 Q' means 'P is father of Q', 'P 7 Q' means 'P is mother of Q' and 'P 9 Q' means 'P is sister of Q', then how is J related to K in J 3 L 9 N 3 O 5 K?

A Mother

B Wife

C Niece

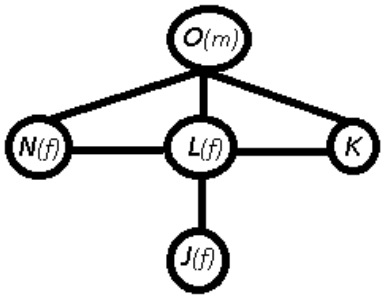
D Daughter

Answer: C

Explanation:
Expression : J 3 L 9 N 3 O 5 K?

J is daughter of L and L is sister of N, => L is mother of J.

N is daughter of O, and O is father of K, => N and L are sisters of K



Thus, J is **niece** of K.

=> Ans - (C)

Instructions

In the following question, select the word which cannot be formed using the letters of the given word.

Question 22

RIVALRIES

A RIVAL

B RICE

C SEAL

D RISE

Answer: B

Explanation:
The word RIVALRIES does not contain any 'C', thus the term **Rice** cannot be formed.

=> Ans - (B)

Question 23

DICTIONARIES

A CATION

B SITE

C DICTATE

D TIRED

Answer: C

Explanation:
The word DICTIONARIES does not contain two T's, thus the term **Dictate** cannot be formed.

=> Ans - (C)

Instructions
For the following questions answer them individually

Question 24

In a certain code language, "he is game" is written as "@#*", "good game play" is written as "$*&" and "play that hard" is written as "!$%". How is "good" written in that code language?

A &

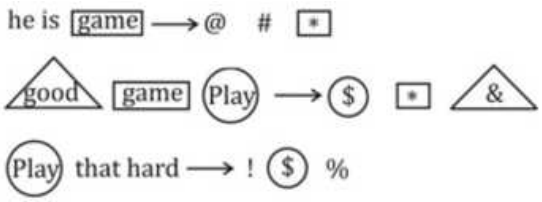
B *

C $

D @

Answer: A

Explanation:



∴ **Code for good → &**
=> Ans - (A)

Question 25

In a certain code language, "CAB" is written as "6" and "LEG" is written as "6". How is "MAP" written in that code language?

A 6

B 4

C 3

D 8

Answer: C

Explanation:
The pattern followed is :

CAB = 3 + 1 + 2 = 6

LEG = 12 + 5 + 7 = 24 = 2 + 4 = 6

MAP = 13 + 1 + 16 = 30 = 3 + 0 = **3**

=> Ans - (C)

Question 26

If "÷" denotes "subtracted from", "+" denotes "multiplied by", "-" denotes "added to" and "×" denotes "divided by", then 19 + 2 ÷ 2 + 2 - 14 = ?

A 52

B 46

C 48

D 88

Answer: C

Explanation:
Expression : 19 + 2 ÷ 2 + 2 - 14 = ?

$\equiv 19 \times 2 - 2 \times 2 + 14$

= $(19 \times 2) - (2 \times 2) + 14$

= $38 - 4 + 14 = 48$

=> Ans - (C)

Question 27

If "#" denotes "multiplied by", "@" denotes "subtracted from", "*" denotes "added to" and "%" denotes "divided by", then which of the following equation must be true?

A 14 % 2 * 3 # 8 = 31

B 3 # 9 @ 4 # 6 = 4

C 5 # 6 % 3 @ 4 = 8

D 4 % 2 # 6 * 7 = 18

Answer: A

Explanation:
(A) : 14 % 2 * 3 # 8 = 31

$\equiv 14 \div 2 + 3 \times 8 = 31$

L.H.S. = $\binom{14}{2} + 24 = 31 =$ R.H.S.

=> Ans - (A)

Question 28

If 11 # 2 @ 6 = 78 and 15 # 4 @ 8 = 152, then 17 # 6 @ 7 = ?

A 161

B 143

C 221

D 157

Answer: A

Explanation:
Given : 11 # 2 @ 6 = 78 and 15 # 4 @ 8 = 152

If we replace # by '+' and @ by 'x', and perform the add operation first, we get the desired result.

Eg :- $(11 + 2) \times 6 = 78$

and $(15 + 4) \times 8 = 152$

Similarly, $(17 + 6) \times 7 = 161$

=> Ans - (A)

Question 29

If 2 = 0, 5 = 1 and 8 = 4, then 11 = ?

A 8

B 9

C 10

D 6

Answer: B

Explanation:
Given : $2 = (0)^2 = 0$

$5 = (1)^2 = 1$

$8 = (2)^2 = 4$

The number on the left is increasing by 3, and the number on the right is the square of consecutive whole numbers.

Thus, $11 = (3)^2 = 9$

=> Ans - (B)

Question 30

In the following question, select the number which can be placed at the sign of question mark (?) from the given alternatives.

3	6
72	18

5	10
120	30

7	14
?	42

A 84

B 136

C 144

D 168

Answer: D

Explanation:
Starting from top left position, if we move clockwise, the pattern followed is :

$3 \times 2 = 6$; $6 \times 3 = 18$; $18 \times 4 = 72$

$5 \times 2 = 10\,;\, 10 \times 3 = 30\,;\, 30 \times 4 = 120$

$7 \times 2 = 14\,;\, 14 \times 3 = 42\,;\, 42 \times 4 = 168$

=> Ans - (D)

Question 31

In the following question, select the number which can be placed at the sign of question mark (?) from the given alternatives.

5	11
2	6

13	4
6	1

8	7
5	?

A 3

B 4

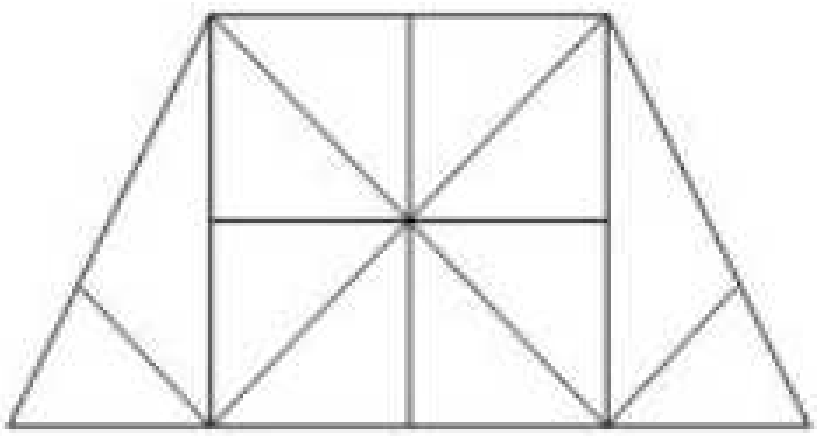
C 6

D 7

Answer: B

Question 32

How many triangles are there in the given figure ?



A 18

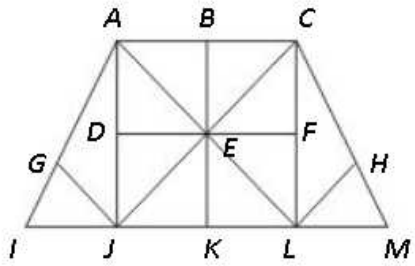
B 20

C 24

D 28

Answer: C

Explanation:



Small triangles = ADE, ABE, BCE, CEF, EFL, ELK, JEK, DEJ, GIJ, AGJ, CLH, HLM

Triangles (containing 2 triangles) = AIJ, ACE, CEL, JEL, AEJ, CLM

Triangles (containing 3 triangles) = AJL, CJL, AJC, ACL

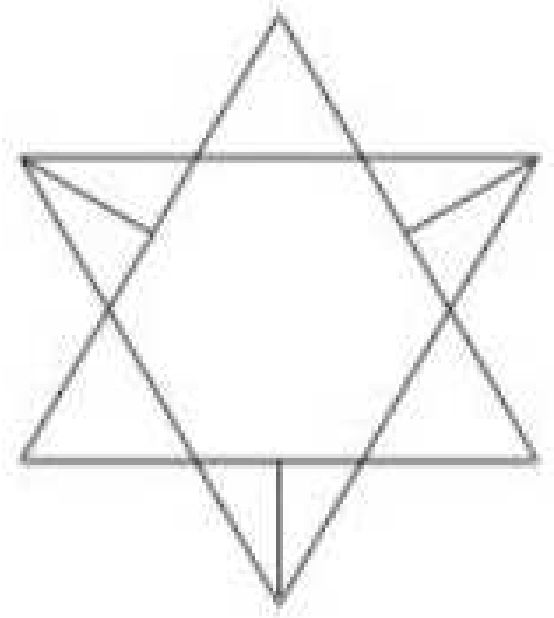
Big triangles = AIL, CJM

Thus, total triangles = **24**

=> Ans - (C)

Question 33

How many triangles are there in the given figure ?



A 12

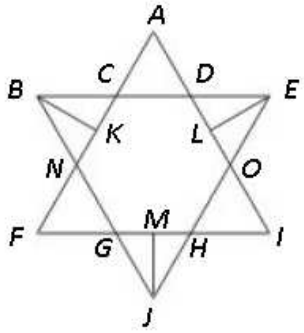
B 14

C 16

D 20

Answer: B

Explanation:



Small triangles = ACD, BCK, BKN, FNG, GMJ, JHM, IOH, DEL, ELO

Triangles (containing 2 triangles) = BCN, GJH, DEO

Big triangles = AFI, BEJ

Thus, total triangles = **14**

=> Ans - (B)

Instructions

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.

Question 34

Statements:
I. Some pens are pencils.
II. All pencils are erasers.
III. Some erasers are cups.
Conclusions:
I. Some pens are cups.
II. Some pencils are cups.
III. Some cups are pencils.
IV. Some erasers are pens.

A Only conclusion (II) follows

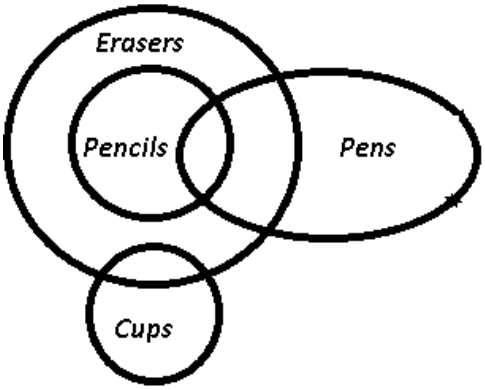
B Only conclusion (IV) follows

C Only conclusion (I) follows

D No conclusion follows

Answer: B

Explanation:
The venn diagram for above statements is :



Conclusions:
I. Some pens are cups = false
II. Some pencils are cups = false

III. Some cups are pencils = false
IV. Some erasers are pens = true

Thus, only conclusion (IV) follows.

=> Ans - (B)

Question 35

I. Some pens are cups.
II. No cups are plates.
Conclusions:
I. Some pens are not plates.
II. All pens are plates.
III. Some plates are not pens.

A Either conclusion (I) or (III) follow

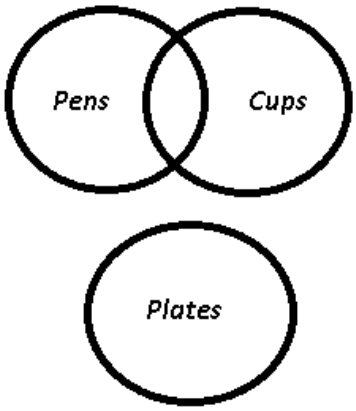
B Only conclusion (I) follows

C Only conclusion (II) and (III) follow

D No conclusion follows

Answer: A

Explanation:
The venn diagram for above statements is :



Conclusions:
I. Some pens are not plates = may or may not be true
II. All pens are plates = false
III. Some plates are pens = may or may not be true

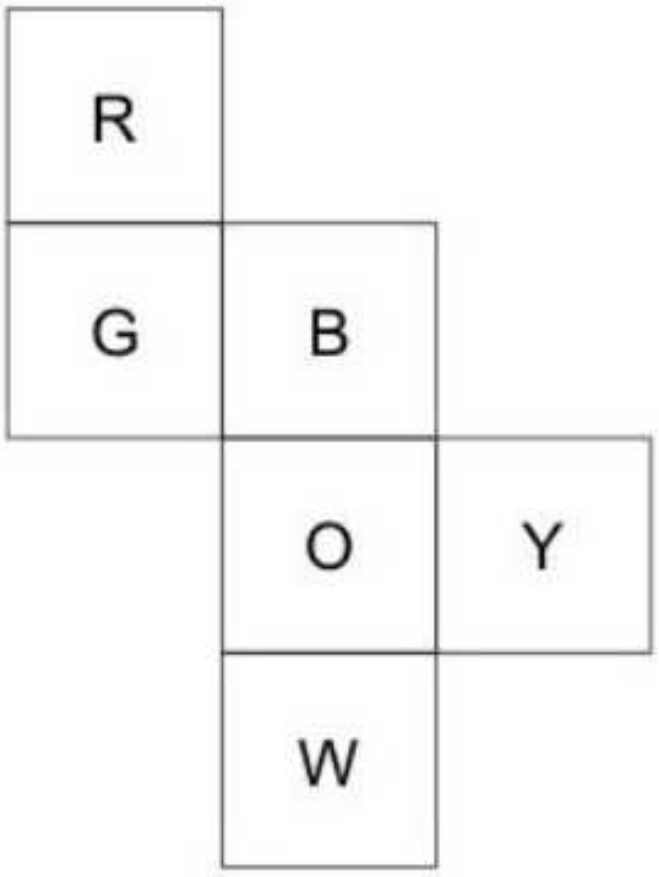
Thus, either conclusion (I) or (III) follow.

=> Ans - (A)

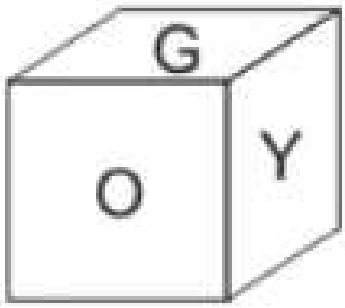
Instructions
For the following questions answer them individually

Question 36

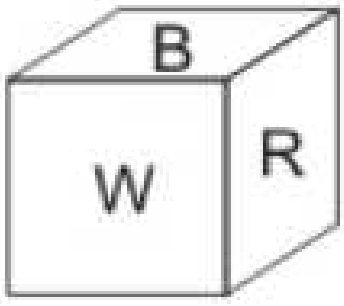
From the given options, which answer figure can be formed by folding the figure given in the question ?



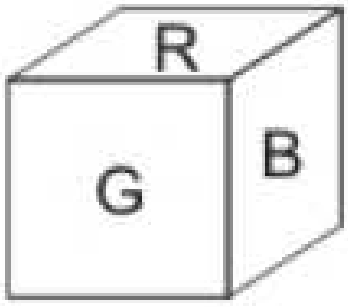
A



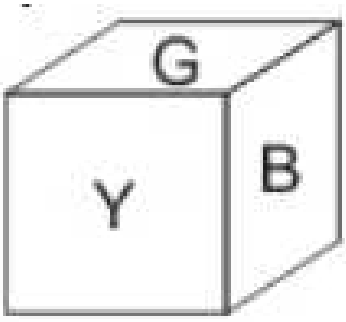
B



C



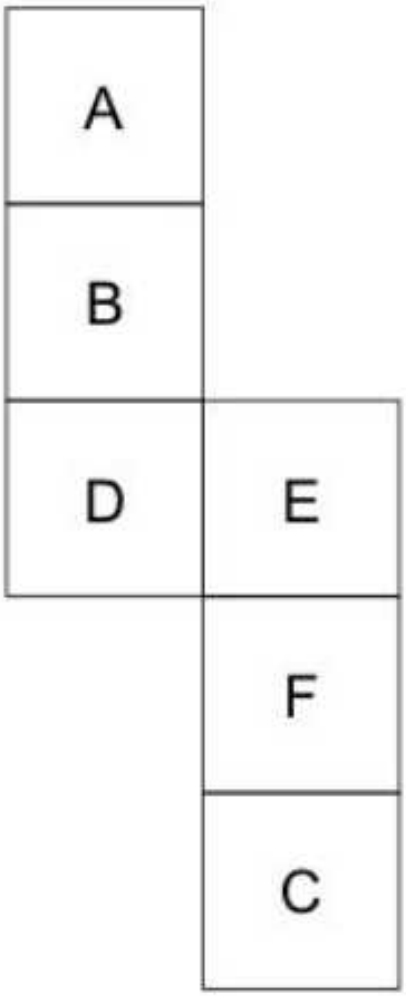
D



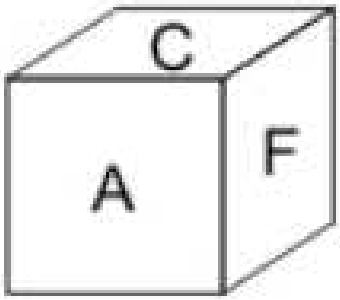
Answer: C

Question 37

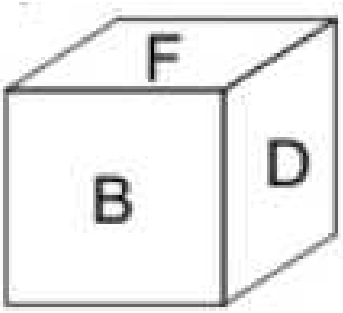
From the given question, which answer figure can be formed by folding the figure given in the question ?



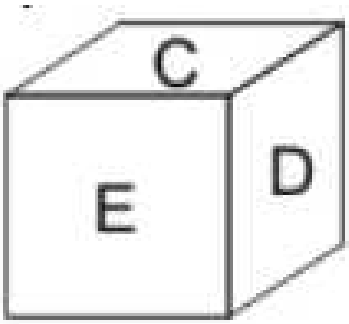
A



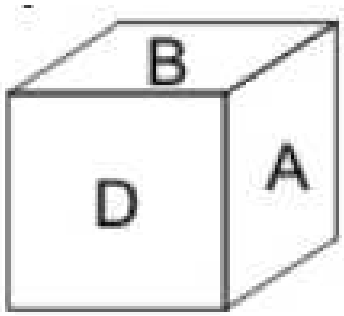
B



C



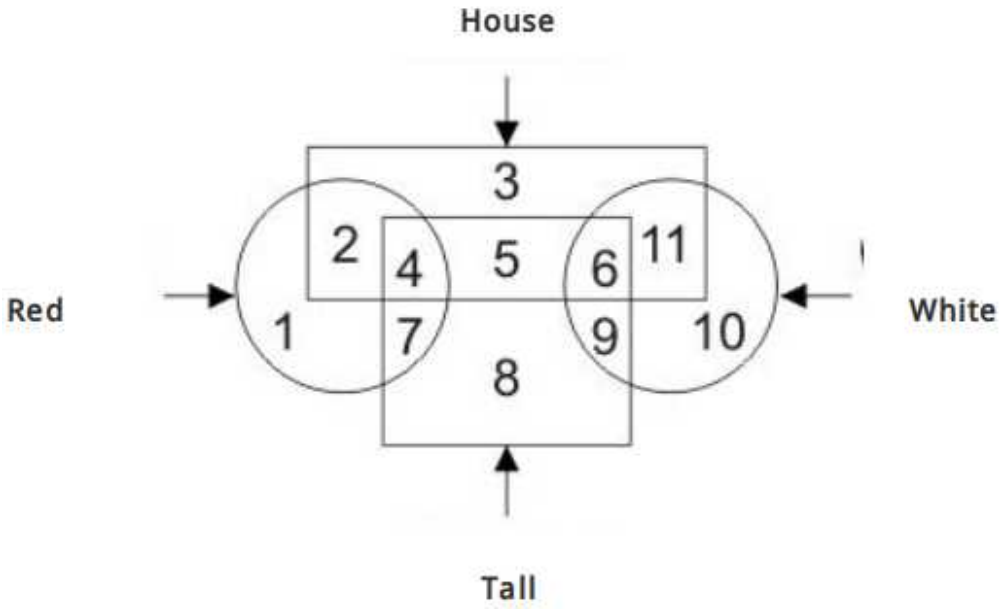
D



Answer: A

Question 38

In the given figure, which number represents houses which are red and tall ?



A 7

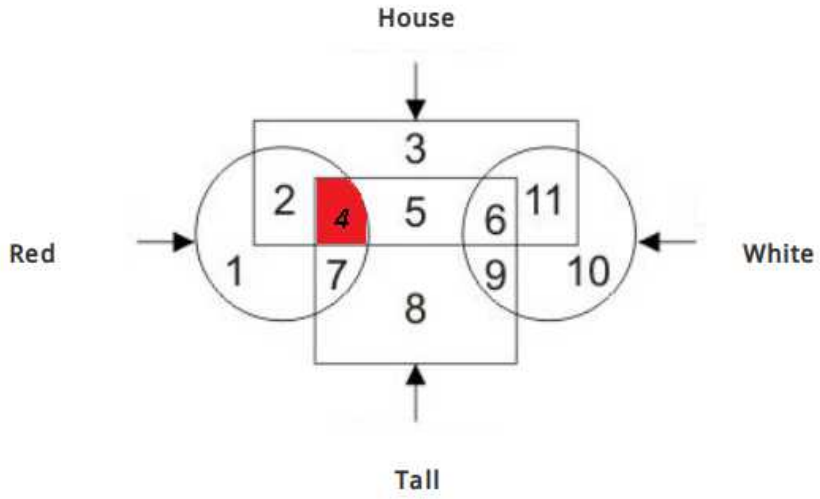
B 4

C 8

D 11

Answer: B

Explanation:

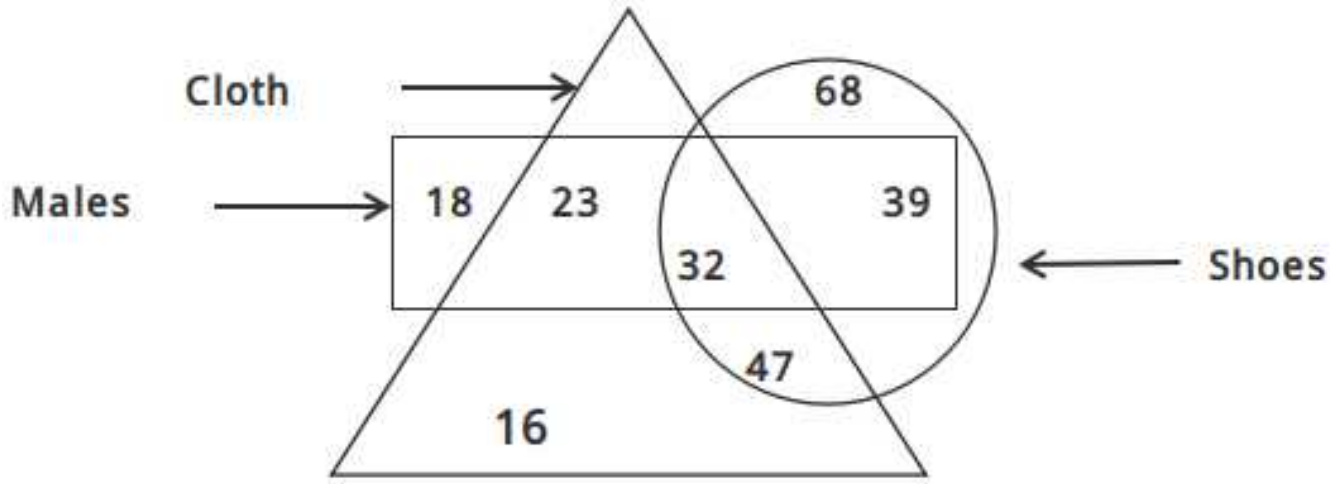


Houses which are red and tall are represented by = **4**

=> Ans - (B)

Question 39

In the given figure, how many males shoes are not of clothes ?



A 71

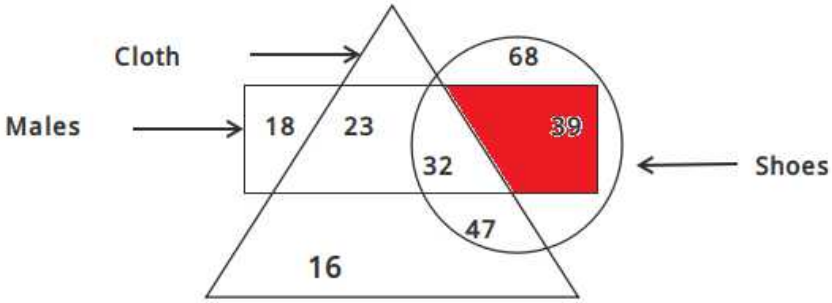
B 39

C 79

D 23

Answer: B

Explanation:



Males shoes that are not of clothes = **39**

=> Ans - (B)

Question 40

In the given figure, which number represents white glass which is not cup ?

A 2

B 3

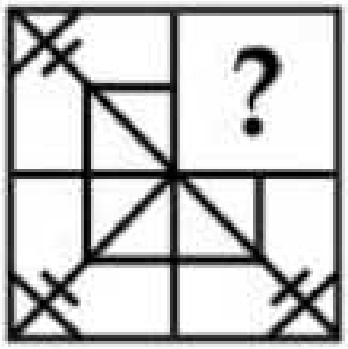
C 6

D 4

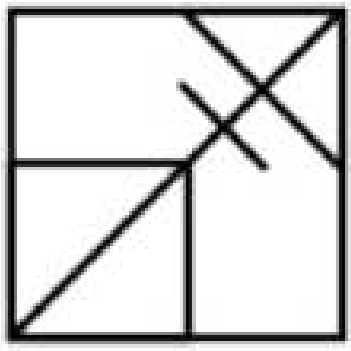
Answer: C

Question 41

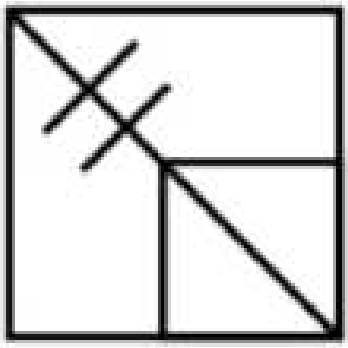
Which answer figure will complete the pattern in the question figure ?



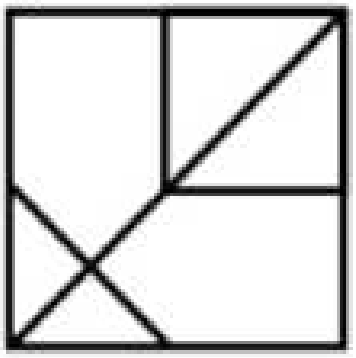
A



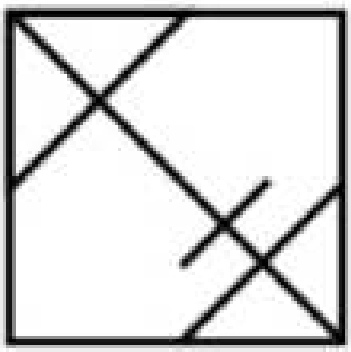
B



C



D



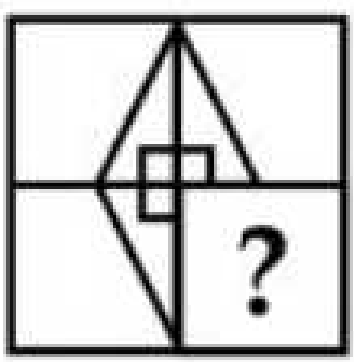
Answer: A

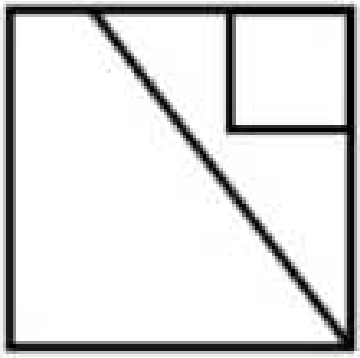
Explanation:
The question figure will be completed by :

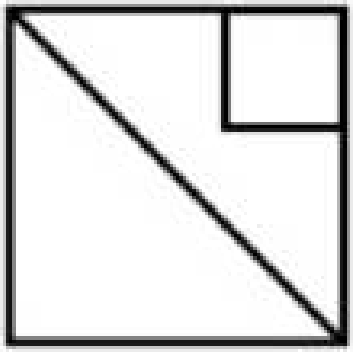
=> Ans - (A)

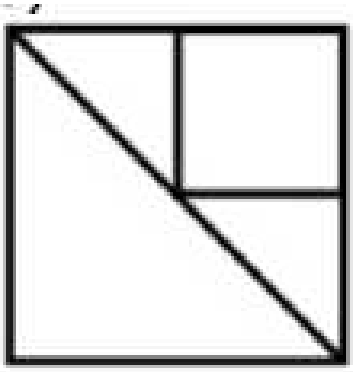
Question 42

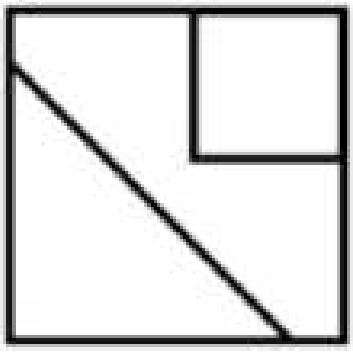
Which answer figure will complete the pattern in the question figure ?



A 

B 

C 

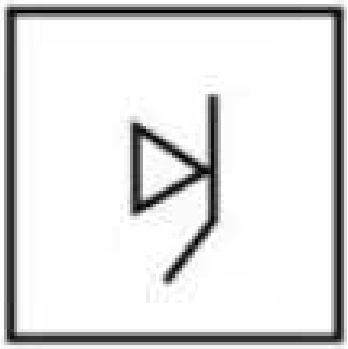
D 

Answer: A

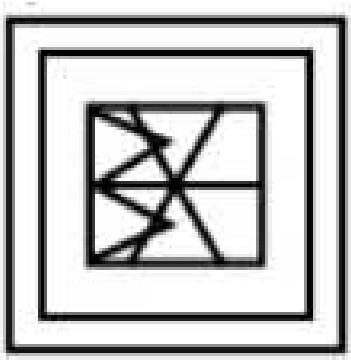
Explanation:
d:

Question 43

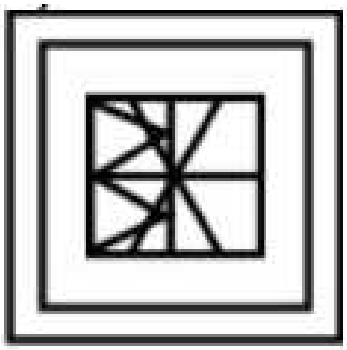
From the given answer figures, select the one in which the question figure is hidden/embedded.



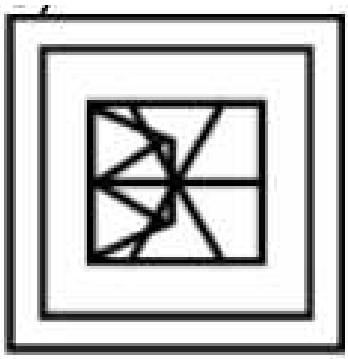
A



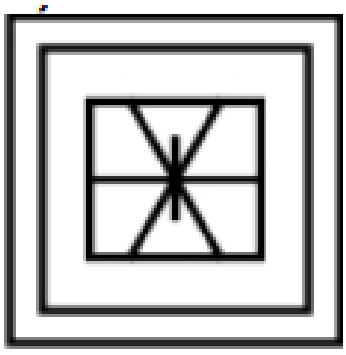
B



C



D



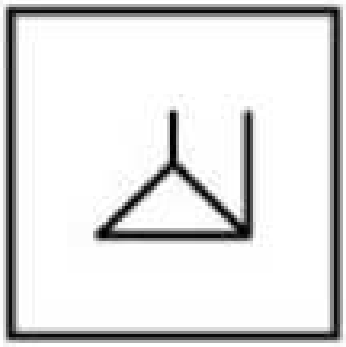
Answer: B

Explanation:
The above figure is represented by 'red' color and is hidden in :

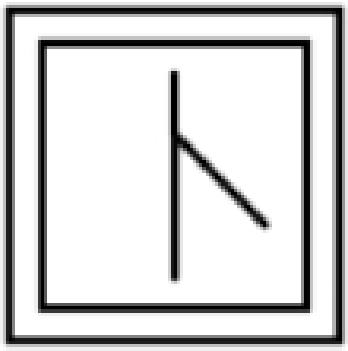
=> Ans - (B)

Question 44

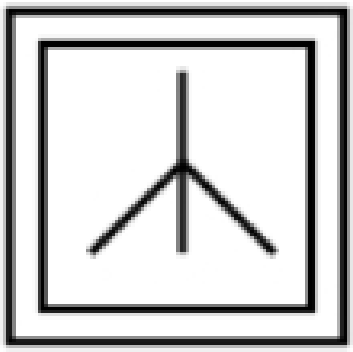
From the given answer figures, select the one in which the question figure is bidden/embedded.

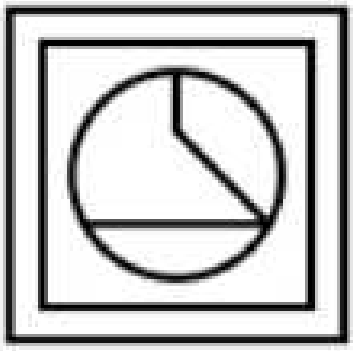


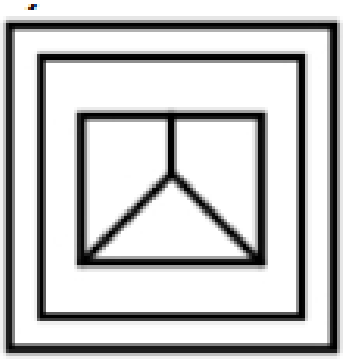
A



B



C 

D 

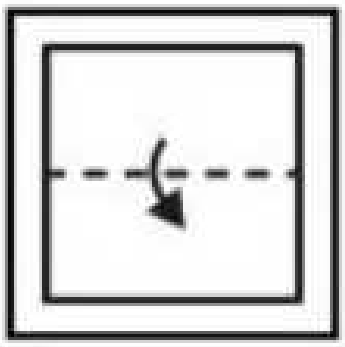
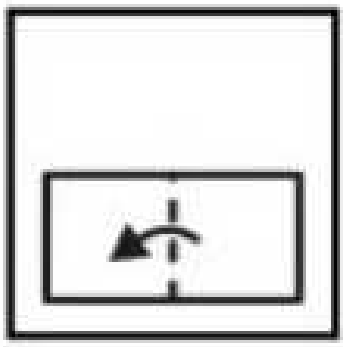
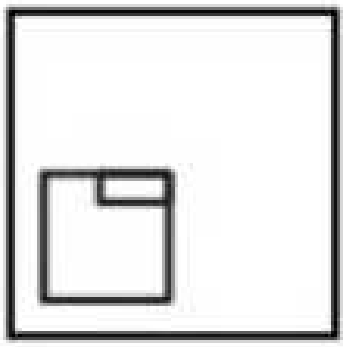
Answer: D

Explanation:
The above figure is represented by 'red' color and is hidden in :

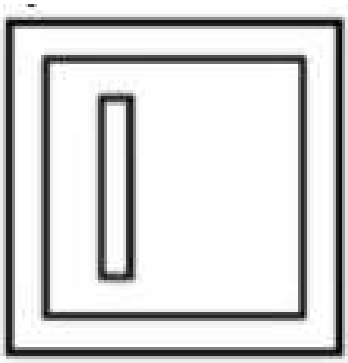
=> Ans - (D)

Question 45

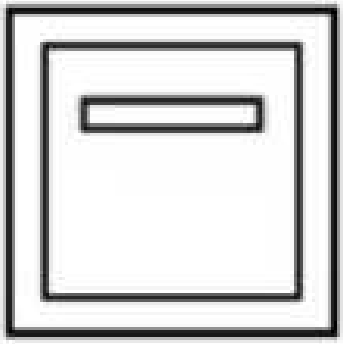
A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened ?

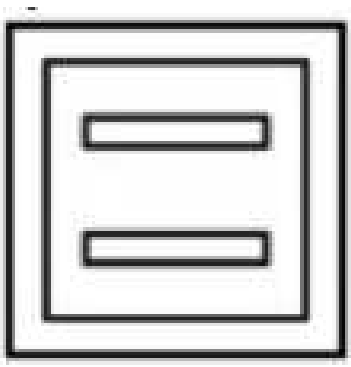
A



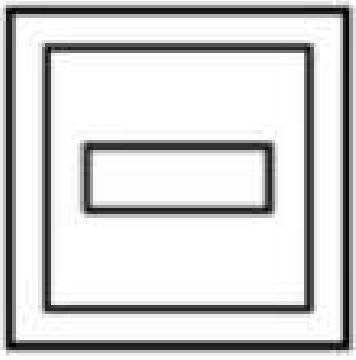
B



C



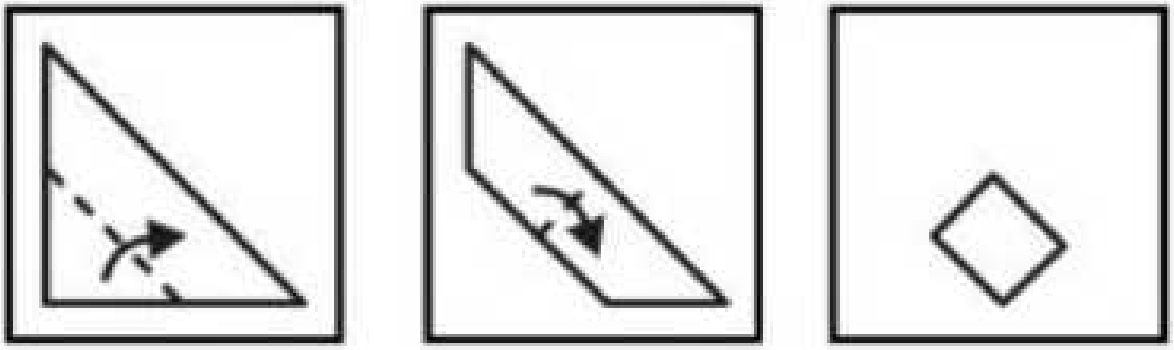
D



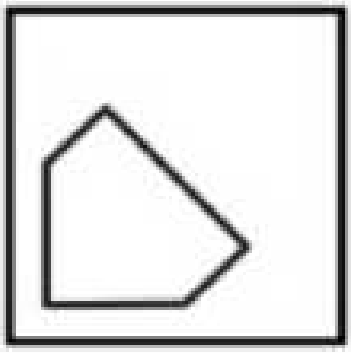
Answer: D

Question 46

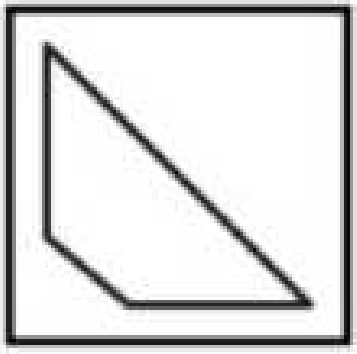
A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened ?



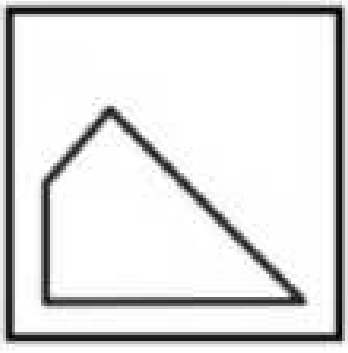
A



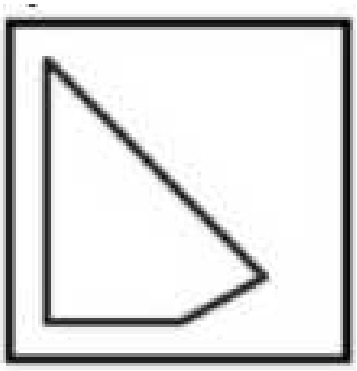
B



C



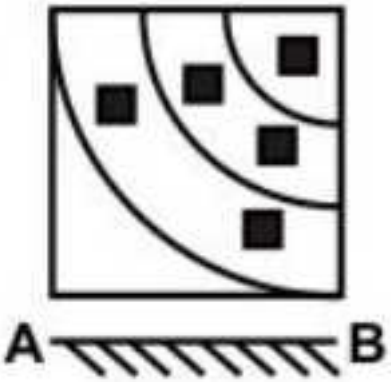
D



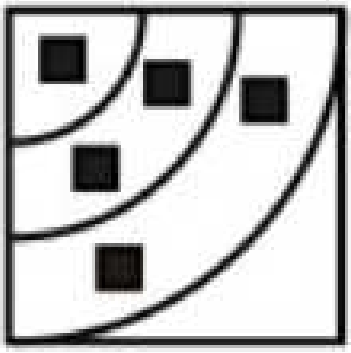
Answer: A

Question 47

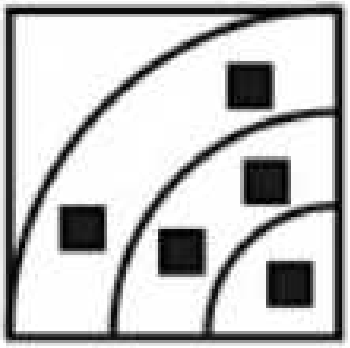
If a mirror is placed on the line AB, then which of the answer figures is the right image of the given figure ?

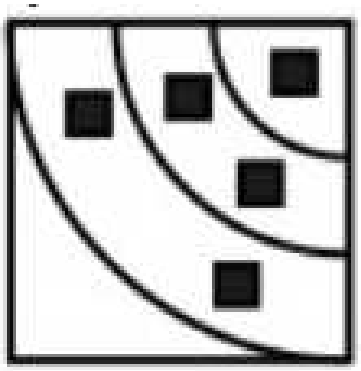


A



B

C 

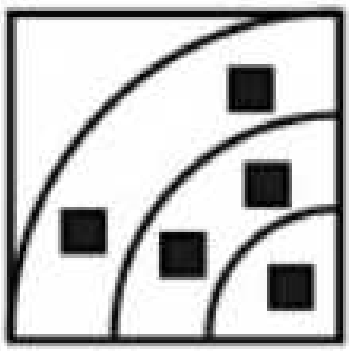
D 

Answer: C

Explanation:
A horizontal mirror is placed, so the object on the top will appear at the bottom in reverse position and vice-versa.

So the three arcs facing top right will now face at bottom right, hence third option is the right image.

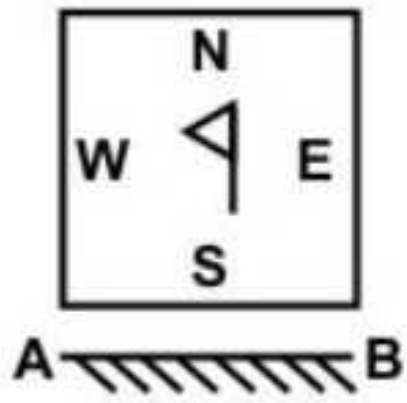
The mirror image :

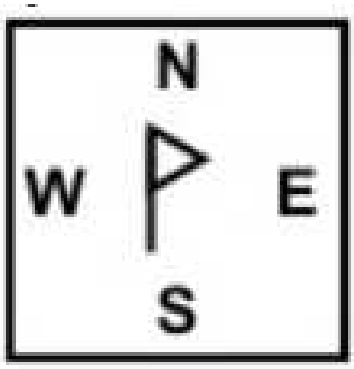


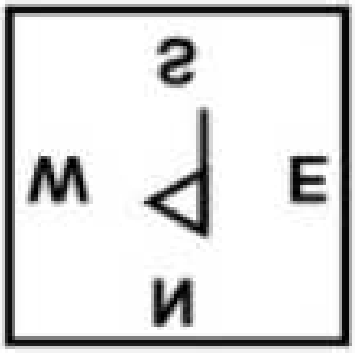
=> Ans - (C)

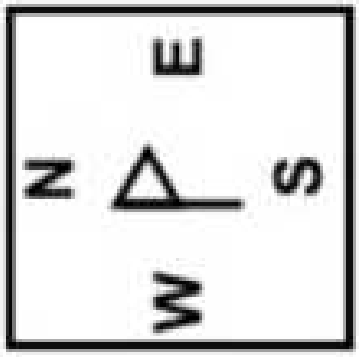
Question 48

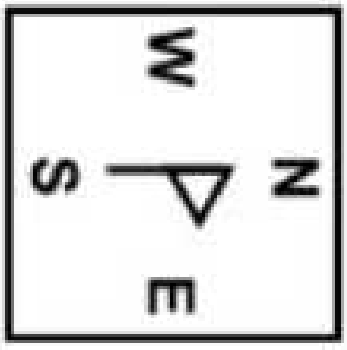
If a mirror is placed on the line AB, then which of the answer figures is the right image of the given figure ?



A 

B 

C 

D 

Answer: B

Explanation:
A horizontal mirror is placed, so the object on the top will appear at the bottom in reverse position and vice-versa.

So the flag in vertical position in the middle will stay vertical but it will be turned upside down and thus will face towards left, hence second option is the right image.

=> Ans - (B)

Question 49

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two dasses of alphabets as shown in the given two matrices. The column and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example, 'N' can be represented by 10, 41, etc., and 'G' can be represented by 56, 99, etc., Similarly, you have to identify the set for the word "CROW".

Matrix-I

	0	1	2	3	4
0	A	R	C	N	K
1	N	K	A	R	C
2	R	C	N	K	A
3	K	A	R	C	N
4	C	N	K	A	R

Matrix-II

	5	6	7	8	9
5	O	G	W	H	U
6	H	U	O	G	W
7	G	W	H	U	O
8	U	O	G	W	H
9	W	H	U	O	G

A 40, 13, 56, 57

B 14, 32, 68, 76

C 21, 01, 86, 69

D 02, 20, 97, 88

Answer: C

Explanation:

(A) : 40, 13, 56, 57 : CRGW

(B) : 14, 32, 68, 76 : CRGW

(C) : 21, 01, 86, 69 : **CROW**

(D) : 02, 20, 97, 88 : CRUW

=> Ans - (C)

Question 50

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two dasses of alphabets as shown in the given two matrices. The column and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example, 'E' can be represented by 12, 24, etc., and 'D' can be represented by 65, 77, etc., Similarly, you have to identify the set for the word "IDLE".

Matrix-I

	0	1	2	3	4
0	E	I	A	U	O
1	U	O	E	I	A
2	I	A	U	O	E
3	O	E	I	A	U
4	A	U	O	E	I

Matrix-II

	5	6	7	8	9
5	B	F	L	D	H
6	D	H	B	F	L
7	F	L	D	H	B
8	H	B	F	L	D
9	L	D	H	B	F

A 20, 65, 95, 43

B 32, 77, 56, 00

C 44, 88, 68, 31

D 01, 96, 75, 43

Answer: A

Explanation:
(A) : 20, 65, 95, 43 : **IDLE**

(B) : 32, 77, 56, 00 : IDFE

(C) : 44, 88, 68, 31 : ILFE

(D) : 01, 96, 75, 43 : IDFE

=> Ans - (A)

General Awareness

Instructions
For the following questions answer them individually

Question 51

Real estate comes under which sector?

A Primary

B Tertiary

C Secondary

D Both Secondary and Tertiary

Answer: B

Question 52

What is the full form of PMGSY?

A Pradhan Mantri Greh Sadak Yojana

B Pradhan Mantri Gaon Sadak Yojana

C Pradhan Mantri Guarantee Sadak Yojana

D Pradhan Mantri Gram Sadak Yojana

Answer: D

Question 53

Match the following.

	Organisation / Group		Head Quarter
i.	IMF	**1**	Geneva
ii.	WTO	**2**	Washington D.C
iii.	ADB	**3**	Kathmandu
iv.	SAARC	**4**	Philippines

A 1-b, 2-a, 3-c, 4-d

B 1-c, 2-a, 3-d, 4-b

C 1-b, 2-c, 3-d, 4-a

D 1-b, 2-a, 3-d, 4-c

Answer: D

Question 54

Which Five Year Plan had a motive of 'Faster, More inclusive and Sustainable growth'?

A Tenth

B Twelfth

C Seventh

D Eleventh

Answer: B

Explanation:
d:

Question 55

How many Navratnas CPSEs (Central Public Sector Enterprises) are there in India?

A 16

B 17

C 18

D 21

Answer: B

Question 56

In which country political theory of 'Fascism' started?

A Japan

B Russia

C Italy

D China

Answer: C

Question 57

Who among the following supports customary rights?

A Ritchie

B Locke

C Plato

D Heller

Answer: A

Question 58

Which of the following statement(s) is/are CORRECT?
I. In federal government, power is distributed among the legislature, executive and judiciary.
II. Due to political competition in a democracy, social divisions get reflected in politics.
III. Communal politics is based on the belief that one religion is superior to that of others.

A I and II

B I, II and III

C I and III

D II and III
d:

Answer: B

Question 59

Who among the following declares Financial Emergency in India?

A President

B Prime minister

C Central Council of Ministers

D Supreme Court of India

Answer: A

Question 60

Which among the following is also known as chief law officer of Government of India?

A Chief Justice of India

B Comptroller and Auditor General

C Attorney General of India

D Judge of Supreme Court of India

Answer: C

Question 61

What is the term of office of Chief Election Commissioner of India?

A Five years

B Six years

C Five years or 60 years of age

D Six years or 65 years of age

Answer: D

Question 62

Lakshadweep's High Court is located in which state of India?

A Tamil Nadu

B Kerala

C Andhra Pradesh

D Karnataka

Answer: B

Question 63

Which among the following can be amended only by special majority in India?

A Admission of New State

B Salaries and allowances of Member of Parliament

C Allowances of the President

D Ammendment of the Constitution via article 368

Answer: D

Question 64

Who among of the following started Marathi fortnightly newspaper 'Bahishkrit Bharat'?

A Dr. B. R. Ambedkar

B Vir Savarkar

C Vinobha Bhave

D Lokmanya Tilak

Answer: A

Question 65

Who among the following did not ruled the Delhi Sultanate?

A Slave dynasty

B Syed dynasty

C Khilji dynasty

D Ghori dynasty

Answer: D

Explanation:
d:

Question 66

Who among of the following was the Viceroy of India when Indian University Act, 1904 was passed?

A Lord Dufferin

B Lord Lansdowne

C Lord Minto

D Lord Curzon

Answer: D

Question 67

Who among the following was also known as 'Zinda Pir'?

A Akbar

B Jahangir

C Shahjahan

D Aurangzeb

Answer: D

Question 68

'Satyashodhak Samaj' was founded by whom?

A Mahatma Gandhi

B Jyotirao Phule

C Dr. B. R. Ambedkar

D Swami Vivekanand

Answer: B

Question 69

Match the following.

	Mountain Range		Continent
i.	Himalayas	**1**	South America
ii.	Andes	**2**	North America
iii.	Rocky	**3**	Asia

A 1 - b, 2 - a, 3 - c

B 1 - c, 2 - a, 3 - b

C 1 - c, 2 - b, 3 - a

D 1 - a, 2 - c, 3 - b

Answer: B

Question 70

On which of the following date, summer solstice is observed in Southern Hemisphere?

A 21st December

B 5th August

C 18th July

D 11th January

Answer: A

Question 71

Moraine is a kind of soil erosion that is caused by which of the following?

A Glacier

B Wind

C River water

D Underground water

Answer: A

Question 72

'Sardar Sarovar Dam' is on which of the following rivers?

A Krishna

B Godavari

C Narmada

D Mahanadi

Answer: C

Question 73

Which river of India has an Inland drainage?

A Tapi

B Ganga

C Godavari

D Luni

Answer: D

Question 74

Who among the following is known as 'Father of Biology'?

A Darwin

B Aristotle

C Heckle

D Edward Jenner

Answer: B

Question 75

Which of the following is necessary for Blood clotting in humans?

A Vitamin A

B Vitamin K

C Vitamin C

D Vitamin E

Answer: B

Question 76

Which of the following human gland produces Insulin?

A Spleen

B Liver

C Pancreas

D Pituitary Gland

Answer: C

Question 77

What is the normal blood pressure in human beings?

A 120/90

B 120/80

C 140/90

D 140/100

Answer: B

Question 78

Who among the following is known as 'Father of Genetics'?

A Darwin

B Mendel

C Lamarck

D De Vries

Answer: B

Question 79

Early blight is a common disease seen in which of the following?

A Potato

B Ginger

C Cabbage

D Cauliflower

Answer: A

Question 80

When an object is kept between two parallel plane mirrors then what is the number of images formed?

A 1

B 2

C 4

D Infinite

Answer: D

Question 81

Friction can be reduced by which of the following?
I. Polishing surfaces
II. Use of lubricants
III. Decreasing area of contact

A Only I

B Only II

C Only I and II

D All options are correct

Answer: C

Question 82

When the speed of a moving object is halved, its _____.

A Kinetic energy becomes 1/4 of the original

B Kinetic energy becomes 4 times the original

C No change in the kinetic energy

D Acceleration is doubled

Answer: A

Question 83

The working principle of a mercury thermometer is _____.

A Change in density of matter on heating

B Expansion of matter on heating

C Thermal resistance of matter

D Change in mass of matter on heating

Answer: B

Question 84

What is storage size of commonly used floppy disks?

A 2.0 MB

B 4.0 MB

C 1.44 MB

D 2.44 MB

Answer: C

Question 85

Which of the following is managed by operating system?
I. Memory
II. Processor
III. Input/Output devices

A Only I

B I, II and III

C I and II

D Only II

Answer: B

Question 86

Which of the following is used for ripening of fruits?

A Methylene

B Ethylene

C Acetone

D Methane

Answer: B

Question 87

What is the major component of Gobar Gas?

A Propane

B Butane

C Methane

D Ethylene

Answer: C

Question 88

Rock Salt contains which mineral?

A Gypsum

B Sodium

C Potassium

D Magnesium

Answer: B

Question 89

Which of the following is not a transition metal?

A Actinium

B Bohrium

C Osmium

D Radium

Answer: D

Question 90

Which of the following is/are CORRECT?

A SPM - Suspended Particulate Matter

B COD - Chemical Oxygen Demand

C Both SPM - Suspended Particulate Matter and COD - Chemical Oxygen Demand

D None of these

Answer: C

Question 91

In which year 'Project Tiger' was launched?

A 1973

B 1982

C 1993

D 1962

Answer: A

Question 92

Which of the following is non-biodegradable?
I. Glass
II. Cotton
III. Paper

A Only I

B I and III

C II and III

D I, II and III

Answer: A

Question 93

The agricultural ministry has unveiled 'A.P.M.C. Act 2017' which has defined each state/UT as a _____.

A Single unified market

B Multiple unified markets

C Single diversified market

D Multiple diversified Market

Answer: A

Question 94

Who amongst the following discovered 'electron'?

A Archimedes

B Roald Amundsen

C J. J. Thomson

D Rudolf Diesel

Answer: C

Question 95

'Him Gold Cup' is related to which sport?

A Cricket

B Boxing

C Hockey

D Volleyball

Answer: C

Question 96

Which of the following pair is incorrect?

A Sanjukta Panigarhil - Odissi Dance

B Shiv kumar Sharma - Flute

C Raja Ravi Verma - Painter

D Ustad Vilayat Khan - Sitar

Answer: B

Question 97

Which album received the 'Album of the year' award at the 59th Annual Grammy Awards?

A 25

B Lemonade

C Purpose

D Views

Answer: A

Question 98

'Khullam Khulla' is an autobiography of which famous actor?

A Shatrughan Sinha

B Mithun Chakarborty

C Jeetendra

D Rishi Kapoor

Answer: D

Question 99

India and Turkey have signed three agreements in the fields of ICT, training and _____ on May 1, 2017.

A Trade

B Culture

C Education

D Agriculture

Answer: B

Question 100

New oil terminal to be built at Motihari in Bihar will supply fuel to _____.

A Myanmar

B Bhutan

C China

D Nepa

Answer: A

Quant

Instructions
For the following questions answer them individually

Question 101

Which value among $\sqrt[4]{7}, \sqrt[3]{11}\ and\ \sqrt[12]{1257}$ is the largest ?

A $\sqrt[3]{11}$

B $\sqrt[4]{7}$

C $\sqrt[12]{1257}$

D All are equal

Answer: A

Explanation:
Terms : $\sqrt[4]{7}, \sqrt[3]{11}\ and\ \sqrt[12]{1257}$

L.C.M. of exponents (4,3,12) = 12

Multiplying the exponents by 12, we get :

$\equiv (7)^{\frac{12}{4}}, (11)^{\frac{12}{3}}$ and $(1257)^{\frac{12}{12}}$

$\equiv (7)^3, (11)^4, (1257)^1$

$\equiv 343, 14641, 1257$

Thus, largest number = $14641 \equiv \sqrt[3]{11}$

=> Ans - (A)

Question 102

What is the value of $\sqrt{1+\frac{1}{2^2}+\frac{1}{3^2}}+\sqrt{1+\frac{1}{3^2}+\frac{1}{4^2}}+\sqrt{1+\frac{1}{4^2}+\frac{1}{5^2}}$?

A 18/5

B 4/3

C 7/3

D 33/10

Answer: D

Explanation:

Expression = $\sqrt{1+\frac{1}{2^2}+\frac{1}{3^2}}+\sqrt{1+\frac{1}{3^2}+\frac{1}{4^2}}+\sqrt{1+\frac{1}{4^2}+\frac{1}{5^2}}$

= $\sqrt{1+\frac{1}{4}+\frac{1}{9}}+\sqrt{1+\frac{1}{9}+\frac{1}{16}}+\sqrt{1+\frac{1}{16}+\frac{1}{25}}$

= $\sqrt{\frac{36+9+4}{36}}+\sqrt{\frac{144+16+9}{144}}+\sqrt{\frac{400+25+16}{400}}$

= $\sqrt{\frac{49}{36}}+\sqrt{\frac{169}{144}}+\sqrt{\frac{441}{400}}$

= $\frac{7}{6}+\frac{13}{12}+\frac{21}{20}$

= $\frac{70+65+63}{60}=\frac{198}{60}=\frac{33}{10}$

=> Ans - (D)

Question 103

What is the value of $(203+107)^2-(203-107)^2$ **?**

A 85886

B 86884

C 43442

D 87884

Answer: B

Explanation:

Expression = $(203+107)^2-(203-107)^2$

Let $x=(203+107)$ and $y=(203-107)$

=> $x^2-y^2=(x+y)(x-y)$

= $[(203+107)+(203-107)][(203+107)-(203-107)]$

= $406\times 214=86884$

=> Ans - (B)

Question 104

If 46N is divisible by 18, then what is the value of N?

A 2

B 4

C 7

D 8

Answer: D

Explanation:

For a number to be divisible by 18, it should be even and sum of its digits should be divisible by 9.

Sum of digits of 46N = $4+6+N=(N+10)$

=> $N + 10 = 18$

=> $N = 18 - 10 = 8$

=> Ans - (D)

Question 105

Which is the smallest four digit number that is a perfect square?

A 1024

B 1048

C 1021

D 1089

Answer: A

Explanation:
Smallest 4 digit number = 1000

Also, $(31)^2 = 961$ and $(32)^2 > 1000$

Thus, the smallest four digit number that is a perfect square = $(32)^2 = 1024$

=> Ans - (A)

Question 106

Aman and Raman together complete a piece of work in 30 days, Raman and Manan can complete the same work in 36 days and Manan and Aman can complete the same work in 45 days. All of the three working together can complete the work in how many days?

A 12

B 18

C 24

D 28

Answer: C

Explanation:
Let total work to be done = L.C.M. (30,36,45) = 180 units

Let efficiency of Aman, Raman and Manan be x, y and z units/day respectively.

Aman and Raman together complete a piece of work in 30 days, => $(x + y) = \frac{180}{30} = 6$ units/day

Similarly, $(y + z) = 5$ and $(z + x) = 4$

Adding all the equations, we get : $2(x + y + z) = 6 + 5 + 4 = 15$

=> $(x + y + z) = \frac{15}{2} = 7.5$

$\therefore$ Time taken by all of them working together = $\frac{180}{7.5} = 24$ days

=> Ans - (C)

Question 107

Two pipes A and B can fill a tank in 20 hours and 24 hours respectively. If the two pipes opened at 5 in the morning, then at what time the pipe A should be closed to completely fill the tank exactly at 5 in the evening?

A 3 pm

B 2 pm

C 1 pm

D 11 am

Answer: A

Explanation:
Let volume of tank = L.C.M. (20,24) = 120 units

Pipe A can fill the tank in 20 hours, => A's efficiency = $\frac{120}{20} = 6$ units/hr

Similarly, B's efficiency = $\frac{120}{24} = 5$ units/hr

Let pipe A is opened for t hours, then in 12 hours 120 units of tank is filled.

=> $(5 \times 12) + (6 \times t) = 120$

=> $6t = 120 - 60$

=> $t = \frac{60}{6} = 10$

$\therefore$ Pipe A is closed after 10 hours, i.e. at **3 pm**

=> Ans - (A)

Question 108

The marked price of a cycle is Rs 36800. If 24% discount is given, then what will be the selling price (in Rs) of the cycle?

A 26168

B 27168

C 27968

D 28142

Answer: C

Explanation:
Marked price of cycle = Rs. 36,800 and discount = 24%

=> Selling price = $36,800 - (\frac{24}{100} \times 36,800)$

= $36800 - 8832 = Rs.\ 27,968$

=> Ans - (C)

Question 109

An article having marked price Rs 1800 is sold for Rs 1476. What is the discount percentage?

A 14

B 15

C 16

D 18

Answer: D

Explanation:
Marked price of article = Rs. 1800

Selling price = Rs. 1476

=> Discount % = $\frac{(1800-1476)}{1800} \times 100$

= $\frac{324}{18} = 18\%$

=> Ans - (D)

Question 110

The ratio of two numbers is 5 : 11. If both numbers are increased by 10, the ratio becomes 7 : 13. What is the sum of the two numbers?

A 80

B 32

C 48

D 160

Answer: A

Explanation:
Let the numbers be $5x$ and $11x$

According to ques,

=> $\frac{5x+10}{11x+10} = \frac{7}{13}$

=> $65x + 130 = 77x + 70$

=> $77x - 65x = 130 - 70$

=> $x = \frac{60}{12} = 5$

$\therefore$ Sum of numbers = $5x + 11x = 16 \times 5 = 80$

=> Ans - (A)

Question 111

If 3P = 5Q = 15R, then what is P : Q : R?

A 5 : 3 : 4

B 5 : 3 : 1

C 3 : 5 : 15

D 15 : 5 : 3

Answer: B

Explanation:
Given : 3P = 5Q = 15R

Now, L.C.M. (3,5,15) = 15

=> P : Q : R = $\left(\frac{15}{3}\right) : \left(\frac{15}{5}\right) : \left(\frac{15}{15}\right)$

= $5 : 3 : 1$

=> Ans - (B)

Question 112

What is the average of the cubes of the first 13 natural numbers?

A 196

B 364

C 485

D 637

Answer: D

Explanation:

Sum of the cubes of the first n natural numbers = $\left[\frac{n(n+1)}{2}\right]^2$

=> Sum of the cubes of the first 13 natural numbers = $\left[\frac{13(13+1)}{2}\right]^2$

=> $(13)^2 \times 49$

$\therefore$ Required average = $\frac{(13)^2 \times 49}{13}$

= $13 \times 49 = 637$

=> Ans - (D)

Question 113

The average of 50 results was calculated as 30 but later it was found that while calculating, 73 was taken as 33 by mistake, then what will be the correct average?

A 29.2

B 30.8

C 31.6

D 34

Answer: B

Explanation:

Average of 50 results = 30

=> Sum of 50 results = $30 \times 50 = 1500$

After correcting the mistake new sum = $1500 - 33 + 73 = 1540$

=> Correct average = $\frac{1540}{50} = 30.8$

=> Ans - (B)

Question 114

By selling a table for Rs.2700 a man gets 10% loss, and than at what price (in Rs) should he sell to gain 33 $\frac{1}{3}$%?

A 3000

B 3300

C 3600

D 4000

Answer: D

Explanation:
Selling price = Rs. 2700 and loss % = 10%

=> Cost price = $\frac{2700}{(100-10)} \times 100$

= $30 \times 100 = Rs.\ 3000$

Profit % = $33\frac{1}{3} = \frac{100}{3}\%$

$\therefore$ Selling price = $3000 + \left(\frac{100}{3 \times 100} \times 3000\right)$

= $3000 + 1000 = Rs.\ 4000$

=> Ans - (D)

Question 115

A trader sells two articles for Rs 14784 each. If he gains 12% on one and losses 12% on other, then what is the value (in Rs) of the loss?

A 300

B 368

C 432

D 498

Answer: C

Explanation:
Selling price of each article = Rs. 14,784

Profit % on one article = 12%

=> Cost price of first article = $\frac{14784}{(100+12)} \times 100$

= $\frac{14784}{1.12} = Rs.\ 13,200$

Similarly, cost price of second article = $\frac{14784}{(100-12)} \times 100$

= $\frac{14784}{0.88} = Rs.\ 16,800$

Thus, total cost price = $13,200 + 16,800 = Rs.\ 30,000$

Total selling price = $14,784 + 14,784 = Rs.\ 29,568$

$\therefore$ Total loss = $30,000 - 29,568 = Rs.\ 432$

=> Ans - (C)

Question 116

If the length of a rectangle is decreased by 20% and breadth is decreased by 40%, then what will be the percentage decrease in the area of the rectangle?

A 48

B 52

C 60

D 40

Answer: B

Explanation:
Let the length and breadth of the rectangle be 10 cm

Area of rectangle = $10 \times 10 = 100\ cm^2$

After decreasing the length by 20%, => New length = $10 - (\frac{20}{100} \times 10)$

= $10 - 2 = 8$ cm

Similarly, new breadth = $10 - (\frac{40}{100} \times 10)$

= $10 - 4 = 6$ cm

=> New area = $8 \times 6 = 48\ cm^2$

$\therefore$ Decrease in area = $\frac{(100-48)}{100} \times 100 = 52\%$

=> Ans - (B)

Question 117

If the radius of sphere is decreased by 10%, then by what percent volume of sphere will decrease?

A 30

B 27.1

C 29.3

D 28.5

Answer: B

Explanation:
Let radius of sphere = $r = 10$ cm

Volume of sphere = $V = \frac{4}{3}\pi r^3$

Let $\frac{4}{3}\pi = k$ (constant)

=> $V = 1000k\ cm^3$

After decreasing the radius by 10%, new radius = $r' = 10 - (\frac{10}{100} \times 10)$

= $10 - 1 = 9$ cm

=> New volume = $V' = (9)^3 k = 729k\ cm^3$

$\therefore$ Decrease in volume = $\frac{(1000-729)}{1000} \times 100$

= $\frac{271}{10} = 27.1\%$

=> Ans - (B)

Question 118

45 pillars are standing in a line such that distance between any two consecutive pillars is same. A car travelling with uniform speed of 72 km/h takes 18 seconds to reach from 1st pole to 10th pole. What is the distance between 10th and 31st pole (in metres)?

A 800

B 820

C 840

D 910

Answer: C

Explanation:
Let distance between two consecutive pillars = d metres

Speed of car = $(72 \times \frac{5}{18}) = 20$ m/s

Using, distance = speed x time

Distance travelled by car from 1st to 10th pillar = $9d = 20 \times 18$

=> $d = 20 \times \frac{18}{9} = 40$ m

$\therefore$ Distance between 10th and 31st pillar = $21d = 21 \times 40 = 840$ metres

=> Ans - (C)

Question 119

Two trains are moving in the same direction at speed of 54 km/h and 92 km/h, their lengths are 400 m and 360 m respectively. What is the time taken (in seconds) by faster train to cross the slower train?

A 60

B 72

C 81

D 90

Answer: B

Explanation:
Relative speed of trains (moving in same direction) = $92 - 54 = 38$ km/hr

= $(38 \times \frac{5}{18})$ m/s = $\frac{95}{9}$ m/s

Total lengths = $400 + 360 = 760$ m

Thus, time taken = $\frac{760}{\frac{95}{9}}$

= $760 \times \frac{9}{95} = 72$ seconds

=> Ans - (B)

Question 120

What is the compound interest (in Rs) on Rs 2400 at the rate of 20% per annum compounded yearly for 2 years?

A 960

B 1024

C 1056

D 1120

Answer: C

Explanation:
Principal sum = Rs. 2400

Rate of interest = 20% and time period = 2 years

Amount after compound interest = $P(1+\frac{r}{100})^T$

= $2400(1+\frac{20}{100})^2$

= $2400\times(\frac{6}{5})^2$

= $96\times36=Rs.\ 3456$

$\therefore$ Compound interest = $3456-2400=Rs.\ 1056$

=> Ans - (C)

Question 121

An amount was lent for one year at the rate of 10% per annum compounding annually had the compounding been done half yearly, the interest would have increased by 80. What was the amount (in Rs) lent?

A 16000

B 32000

C 48000

D 64000

Answer: B

Explanation:

Let the amount rent = Rs. $100x$

Rate of interest = 10% and time period = 1 year

Amount if compounded annually = $P(1+\frac{r}{100})^T$

and if compounded half yearly = $P(1+\frac{r}{200})^{2T}$

According to ques, required difference :

=> $[100x(1+\frac{10}{200})^2]-[100x(1+\frac{10}{100})^1]=80$

=> $[100x\times(\frac{21}{20})^2]-[100x\times(\frac{11}{10})]=80$

=> $\frac{441x}{4}-110x=80$

=> $\frac{441x-440x}{4}=80$

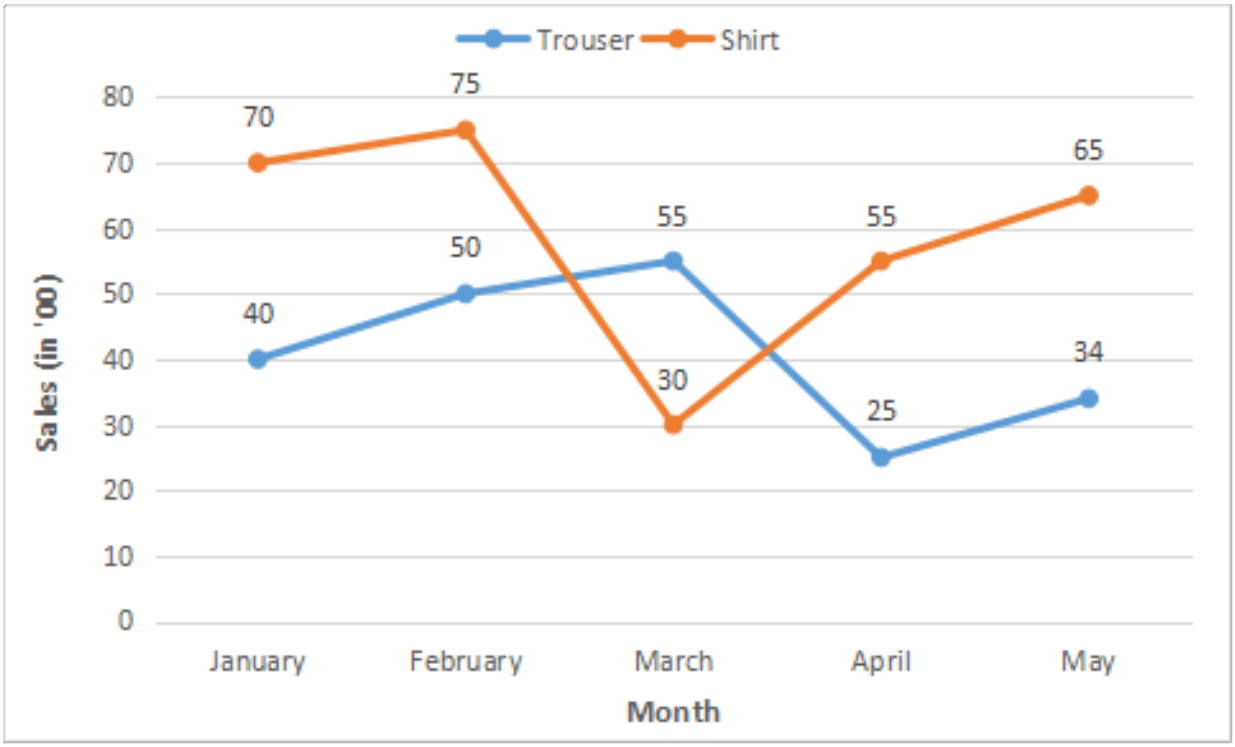
=> $x=80\times4=320$

$\therefore$ Sum lent = $100\times320=Rs.\ 32,000$

=> Ans - (B)

Instructions

The line chart given below represents the sales (in 00) of trousers and shirts for five months.



Question 122

What is the difference between sales of shirts for months January and April?

A 2700

B 1500

C 2000

D 2200

Answer: B

Explanation:
Sale of shirts in January = 7000

Sale of shirts in April = 5500

=> Required difference = $7000 - 5500 = 1500$

=> Ans - (B)

Question 123

What is the percentage increase in the sales of the trousers from January to February?

A 25

B 20

C 10

D 28

Answer: A

Explanation:
Sale of trousers in January (in '00) = 40

Sale of trousers in February (in '00) = 50

=> Required % increase = $\frac{(50-40)}{40} \times 100$

= $\frac{1000}{40} = 25\%$

=> Ans - (A)

Question 124

In March sale of trousers is what percent of sale of shirts?

A 83.33

B 54.54

C 125

D 183.33

Answer: D

Explanation:
Sale of shirts in March (in '00) = 30

Sale of trousers in March (in '00) = 55

=> Required % = $\frac{55}{30} \times 100$

= $\frac{550}{3} = 183.33\%$

=> Ans - (D)

Question 125

Total sale of shirts for five months is how much percent more than the total sale of trousers for five months?

A 30.84

B 38.46

C 44.61

D 49.94

Answer: C

Explanation:
Total sale of shirts for five months (in '00)

= 70 + 75 + 30 + 55 + 65 = 295

Total sale of trousers for five months (in '00)

= 40 + 50 + 55 + 25 + 34 = 204

=> Required % = $\frac{(295-204)}{204} \times 100$

$\approx \frac{90}{2} = 45 \approx 44.61\%$

=> Ans - (C)

Instructions
For the following questions answer them individually

Question 126

The ratio of curved surface area of two cones is 1 : 9 and the ratio of slant height of the two cones is 3 : 1. What is the ratio of the radius of the two cones?

A 1 : 3

B 1 : 9

C 1 : 27

D 1 : 1

Answer: C

Explanation:
Let radius of the cones be r_1 cm and r_2 cm respectively.

Slant height of first cone = $l_1 = 3$ cm and of second cone = $l_2 = 1$ cm

Curved surface area of cone = πrl

According to ques, => $\frac{\pi r_1 l_1}{\pi r_2 l_2} = \frac{1}{9}$

=> $\frac{r_1}{r_2} = \frac{1}{9} \times \frac{1}{3} = \frac{1}{27}$

Thus, the ratio of the radius of the two cones = **1 : 27**

=> Ans - (C)

Question 127

If the area of a square is 24, then what is the perimeter of the square?

A $2\sqrt{6}$

B $4\sqrt{6}$

C $16\sqrt{6}$

D $8\sqrt{6}$

Answer: D

Explanation:
Let side of square = s cm

=> Area = $s^2 = 24$

=> $s = \sqrt{24} = 2\sqrt{6}$

$\therefore$ Perimeter = $4s$

= $4 \times 2\sqrt{6} = 8\sqrt{6}$ cm

=> Ans - (D)

Question 128

What is the total surface area (in cm2) of a cylinder having radius of base as 7 cm and height as 15 cm?

A 814

B 616

C 968

D 780

Answer: C

Explanation:
Radius of cylinder = $r = 7$ cm and height = $h = 15$ cm

=> Total surface area = $2\pi r(r + h)$

= $(2 \times \frac{22}{7} \times 7)(7 + 15)$

= $44 \times 22 = 968\ cm^2$

=> Ans - (C)

Question 129

A cylindrical well of height 40 metres and radius 7 metres is dug in a field 56 metres long and 11 metres wide. The earth taken out is spread evenly on the field. What is the increase in the level of the field?

A 12.5

B 10.66

C 11.5

D 13.33

Answer: D

Explanation:
Increase in the level of the field is the height of field (cuboidal shape) when volume of well (cylinderical) is equal to the volume of field (cuboidal).

Radius of well = $R = 7$ m and height = $H = 40$ m

Length of field = $l = 56$ m and width = $b = 11$ m

Let height = h m

=> Volume of cuboid = Volume of cylinder

Now, volume of cuboid = (Area of rectangle - Area of circle) $\times$ height

=> $(lb - \pi R^2) \times h = \pi R^2 H$

=> $[(56 \times 11) - (\frac{22}{7} \times 7^2)] \times (h) = \frac{22}{7} \times (7)^2 \times 40$

=> $(616 - 154)h = 22 \times 280$

=> $h = \frac{22 \times 280}{462} = 13.33$ m

=> Ans - (D)

Question 130

A cuboid of sides 5 cm, 10 cm and 20 cm are melted to form a new cube. What is the ratio between the total surface area of the cuboid and that of the cube?

A 6 : 5

B 7 : 6

C 11 : 10

D 9 : 7

Answer: B

Explanation:

Let edge of cube = a cm

Now, volume of cube = Volume of cuboid

=> $a^3 = 5 \times 10 \times 20$

=> $a = \sqrt[3]{1000} = 10$ cm

Ratio between the total surface area of the cuboid and that of the cube = $\frac{2(lb+bh+hl)}{6a^2}$

= $\frac{2[(5\times10)+(10\times20)+(20\times5)]}{6\times(10)^2}$

=> $\frac{2\times(50+200+100)}{600} = \frac{700}{600} = \frac{7}{6}$

=> Ans - (B)

Question 131

What is the value of $\left[\frac{1}{1-x^{(p-q)}} + \frac{1}{1-x^{(q-p)}}\right]$?

A 0

B 1

C $(x^q - x^p)/(x^q + x^p)$

D $(x^q + x^p)/(x^q - x^p)$

Answer: B

Explanation:

Expression = $\left[\frac{1}{1-x^{(p-q)}} + \frac{1}{1-x^{(q-p)}}\right]$

= $\left(\frac{1}{1-\frac{x^p}{x^q}}\right) + \left(\frac{1}{1-\frac{x^q}{x^p}}\right)$

= $\left(\frac{x^q}{x^q-x^p}\right) + \left(\frac{x^p}{x^p-x^q}\right)$

= $\left(\frac{x^q}{x^q-x^p}\right) - \left(\frac{x^p}{x^q-x^p}\right)$

= $\frac{x^q-x^p}{x^q-x^p} = 1$

=> Ans - (B)

Question 132

If $x^2 - 3x + 1 = 0$, then what is the value of $x + \frac{1}{x}$?

A 3

B 7

C 9

D 11

Answer: A

Explanation:

Given : $x^2 - 3x + 1 = 0$

Dividing both sides by $'x'$

=> $x - 3 + \frac{1}{x} = 0$

=> $x + \frac{1}{x} = 3$

=> Ans - (A)

Question 133

If $a + b + c = -11$, then what is the value of $(a+4)^3 + (b+5)^3 + (c+2)^3 - 3(a+4)(b+5)(c+2)$?

A -1331

B -121

C 0

D 1331

Answer: C

Explanation:

Given : $a + b + c = -11$

=> $a + b + c + 11 = 0$

=> $(a+4) + (b+5) + (c+2) = 0$

Let $(a+4) = x$, $(b+5) = y$ and $(c+2) = z$

=> $x + y + z = 0$ ----------(i)

To find : $(a+4)^3 + (b+5)^3 + (c+2)^3 - 3(a+4)(b+5)(c+2)$

= $x^3 + y^3 + z^3 - 3xyz$

= $(x + y + z)(x^2 + y^2 + z^2 - xy - yz - zx)$

Substituting value from equation (i), we get :

= $(0)(x^2 + y^2 + z^2 - xy - yz - zx) = 0$

=> Ans - (C)

Question 134

If $\sqrt{7x + 12} + \sqrt{7x - 12} = 3 + \sqrt{33}$, then what is the value of x?

A 0

B 1

C 3

D 9

Answer: C

Explanation:

Expression : $\sqrt{7x + 12} + \sqrt{7x - 12} = 3 + \sqrt{33}$

$(7x - 12)$ must be greater than equal to 0.

=> $7x - 12 \geq 0$

=> $x \geq \frac{12}{7}$

Thus, first two options are eliminated. Putting $x = 3$ in above equation,

=> $\sqrt{7(3) + 12} + \sqrt{7(3) - 12}$

=> $\sqrt{33} + \sqrt{9}$

= $3 + \sqrt{33}$ = R.H.S.

=> Ans - (C)

Question 135

If $x + \frac{1}{x} = 3\sqrt{2}$, then what is the value of $x^5 + \frac{1}{x^5}$

A $178\sqrt{3}$

B $789\sqrt{2}$

C $1581\sqrt{2}$

D $717\sqrt{2}$

Answer: D

Explanation:

Given : $x + \frac{1}{x} = 3\sqrt{2} = k$

Now, $x^5 + \frac{1}{x^5} = [(x^3 + \frac{1}{x^3}) \times (x^2 + \frac{1}{x^2})] - (x + \frac{1}{x})$

= $[(x + \frac{1}{x})^3 - 3(x + \frac{1}{x}) \times (x + \frac{1}{x})^2 - 2(x)(\frac{1}{x})] - (x + \frac{1}{x})$

= $[(k^3 - 3k) \times (k^2 - 2)] - (k)$

= $[(54\sqrt{2} - 9\sqrt{2}) \times (18 - 2)] - (3\sqrt{2})$

= $(45\sqrt{2} \times 16) - 3\sqrt{2}$

= $720\sqrt{2} - 3\sqrt{2} = 717\sqrt{2}$

=> Ans - (D)

Question 136

In ΔPQR, a line parallel to side QR cuts the side PQ and PR at points M and N respectively and point M divide PQ in the ratio of 1 : 2. If area of ΔPQR is 360 cm2, then what is the area (in cm2) of quadrilateral MNRQ?

A 160

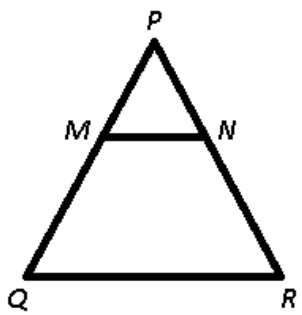
B 320

C 120

D 240

Answer: B

Explanation:



Given = PM : MQ = 1 : 2 and area of $\triangle$ PQR = $360\ cm^2$

To find = area (MNRQ) = ?

Solution = Since, MN is parallel to QR, => $\frac{PM}{PQ} = \frac{PN}{PR} = \frac{1}{3}$

=> $\triangle PMN \sim \triangle PQR$

Now, ratio of area of the two triangles is equal to the ratio of square of the corresponding sides.

=> $\frac{ar(\triangle PMN)}{ar(\triangle PQR)} = (\frac{1}{3})^2$

=> $\frac{ar(\triangle PMN)}{360} = \frac{1}{9}$

=> $ar(\triangle PMN) = \frac{360}{9} = 40\ cm^2$

$\therefore ar(MNRQ) = 360 - 40 = 320\ cm^2$

=> Ans - (B)

Question 137

ABC is an isosceles triangle such that AB = AC = 30 cm and BC = 48 cm. AD is a median to base BC. What is the length (in cm) of AD?

A 18

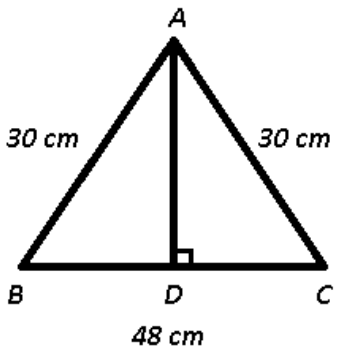
B 20

C 24

D 32

Answer: A

Explanation:



Given : AB = AC = 30 cm and BC = 48 cm. AD is a median to base BC

To find : AD = ?

Solution : In an isosceles triangle, median is perpendicular to the base.

=> CD = $\frac{48}{2} = 24$ cm

Thus, in right $\triangle$ ADC,

=> $(AD)^2 = (AC)^2 - (CD)^2$

=> $(AD)^2 = (30)^2 - (24)^2$

=> $(AD)^2 = 900 - 576 = 324$

=> $AD = \sqrt{324} = 18$ cm

=> Ans - (A)

Question 138

In ΔABC, ∠C = 54°, the perpendicular bisector of AB at D meets BC at E. If ∠EAC = 42°, then what is the value (in degrees) of ∠ABC?

A 25

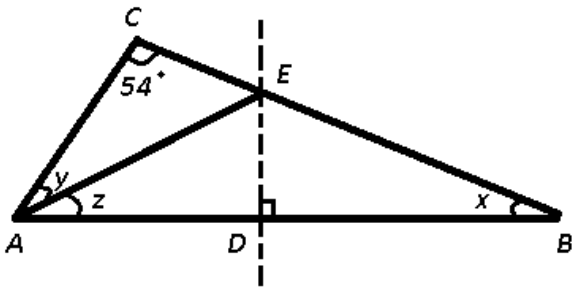
B 42

C 50

D 60

Answer: B

Explanation:



Given : ED is the perpendicular bisectors of AB, $\angle C = 54^\circ$ and $\angle EAC = y = 42^\circ$

To find : $\angle B = x = ?$

Solution : In $\triangle$ EAC, using exterior angle property,

=> $\angle$ AEB = $\angle$ C + y

=> $\angle$ AEB = $54^\circ + 42^\circ = 96^\circ$

Thus, in $\triangle$ AEB, => $x + z = 180^\circ - 96^\circ = 84^\circ$ ----------(i)

Also, in $\triangle$ EAD and $\triangle$ BDE

AD = DB (DE bisects AB)

$\angle$ EAD = $\angle$ EDB = 90°

DE = DE (Common)

Thus, $\triangle$ EAD $\cong$ $\triangle$ BDE (By SAS criterion)

=> $x = z$ (By CPCT)

Substituting above value in equation (i), we get :

=> $x + x = 2x = 84^\circ$

=> $x = \frac{84}{2} = 42^\circ$

=> Ans - (B)

Question 139

In an isosceles triangle DEF, ∠D = 130°. If I is the incentre of the triangle, then what is the value (in degrees) of ∠EIF?

A 120

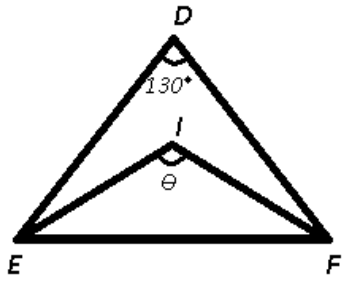
B 140

C 155

D 165

Answer: C

Explanation:



Given : I is the incentre of $\triangle$ DEF and $\angle$ D = 130°

To find : $\angle$ EIF = θ = ?

Incentre of a triangle = $90^\circ + \frac{\angle D}{2}$

=> $\theta = 90^\circ + \frac{130^\circ}{2}$

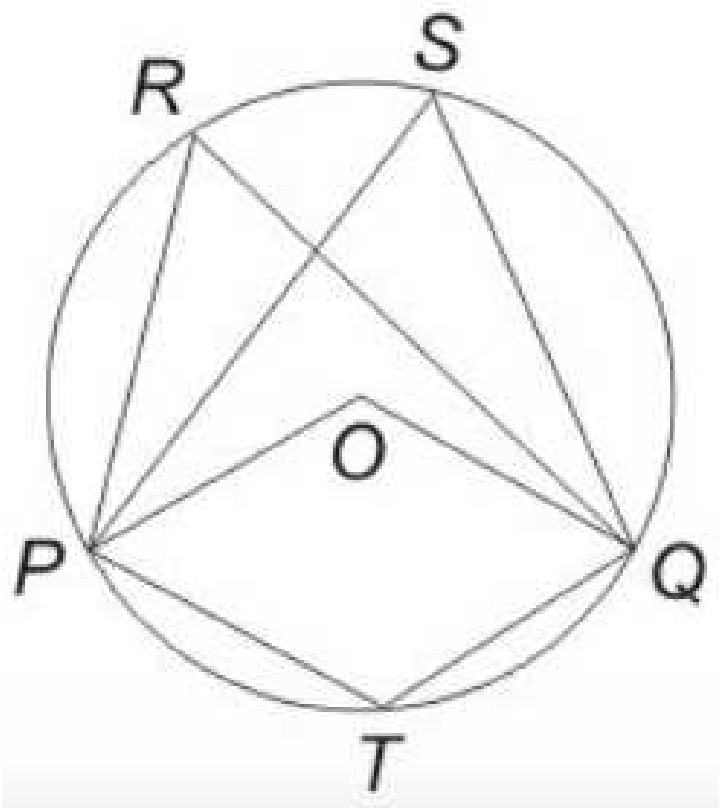
=> $\theta = 90^\circ + 65^\circ$

=> $\theta = 155^\circ$

=> Ans - (C)

Question 140

In the following figure, O is the centre of the circle and $\angle$PRQ = 50°. What is the value (in degrees) of $\angle$PTQ?



A 100

B 75

C 130

D 150

Answer: C

Explanation:

Given : ∠PRQ = 50°

To find : ∠PTQ = ?

Solution : Quadrilateral PRQT is a cyclic quadrilateral, in which opposite angles are supplementary.

=> ∠ PRQ + ∠ PTQ = 180°

=> ∠ PTQ = $180^\circ - 50^\circ = 130^\circ$

=> Ans - (C)

Question 141

If $2\cos^2$ θ - 1 = 0 and θ is acute, then what is the value of ($\cot^2$ θ - $\tan^2$ θ)?

A 0

B 2

C 10/3

D 1

Answer: A

Explanation:

Given : $2cos^2\theta - 1 = 0$

=> $cos^2\theta = \frac{1}{2}$

=> $cos\theta = \sqrt{\frac{1}{2}} = \frac{1}{\sqrt{2}}$

=> $\theta = cos^{-1}(\frac{1}{\sqrt{2}}) = 45^\circ$

$\therefore cot^2\theta - tan^2\theta$

= $cot^2(45^\circ) - tan^2(45^\circ)$

= $1 - 1 = 0$

=> Ans - (A)

Question 142

If $\frac{1}{cos\theta + sec\theta} = \frac{1}{2}$, then what is the value of $cos^{100}\theta + sec^{100}\theta$?

A 0

B 1

C 2

D 4

Answer: C

Explanation:

Given : $\frac{1}{cos\theta + sec\theta} = \frac{1}{2}$

=> $\frac{1}{cos\theta + \frac{1}{cos\theta}} = \frac{1}{2}$

=> $\frac{cos\theta}{cos^2\theta + 1} = \frac{1}{2}$

=> $cos^2\theta + 1 - 2cos\theta = 0$

=> $(cos\theta - 1)^2 = 0$

=> $cos\theta = 1$

Also, $sec\theta = \frac{1}{cos\theta} = 1$

$\therefore\ cos^{100}\theta + sec^{100}\theta$

= $(1)^{100} + (1)^{100} = 1 + 1 = 2$

=> Ans - (C)

Question 143

What is the simplified value of 1 + cot A cot $(\frac{A}{2})$?

A cos $(\frac{A}{2})$

B $sin^2(\frac{A}{2})$

C $\frac{1}{2}cosec^2(\frac{A}{2})$

D cos A

Answer: C

Question 144

If tan $(\frac{\theta}{2})tan(\frac{2\theta}{5})$ = 1, then what is the value (in degrees) of θ?

A 45°

B 90°

C 100°

D 120°

Answer: C

Explanation:

Given : $tan(\frac{\theta}{2})tan(\frac{2\theta}{5}) = 1$ ----------(i)

Now, we know that $tan(A + B) = \frac{tanA + tanB}{1 - tanAtanB}$

=> $tan(\frac{\theta}{2} + \frac{2\theta}{5}) = [tan(\frac{\theta}{2}) + tan(\frac{2\theta}{5})] \div [1 - tan(\frac{\theta}{2})tan(\frac{2\theta}{5})]$

Substituting value from equation (i), we get :

=> $tan(\frac{\theta}{2} + \frac{2\theta}{5}) = \frac{tan(\frac{\theta}{2}) + tan(\frac{2\theta}{5})}{0}$

=> $tan(\frac{\theta}{2} + \frac{2\theta}{5}) = tan(90°)$

=> $\frac{\theta}{2} + \frac{2\theta}{5} = 90$

=> $\frac{5\theta + 4\theta}{10} = 90$

=> $\theta = 90 \times \frac{10}{9}$

=> $\theta = 100°$

=> Ans - (C)

Question 145

What is the simplified value of $\frac{3}{cosec^2\theta} + \frac{5}{1+tan^2\theta} - 2cos^2\theta$**?**

A 3

B 4

C 5

D 7

Answer: A

Explanation:

Expression = $\frac{3}{cosec^2\theta} + \frac{5}{1+tan^2\theta} - 2cos^2\theta$

= $3sin^2\theta + \frac{5}{sec^2\theta} - 2cos^2\theta$

= $3sin^2\theta + 5cos^2\theta - 2cos^2\theta$

= $3sin^2\theta + 3cos^2\theta$

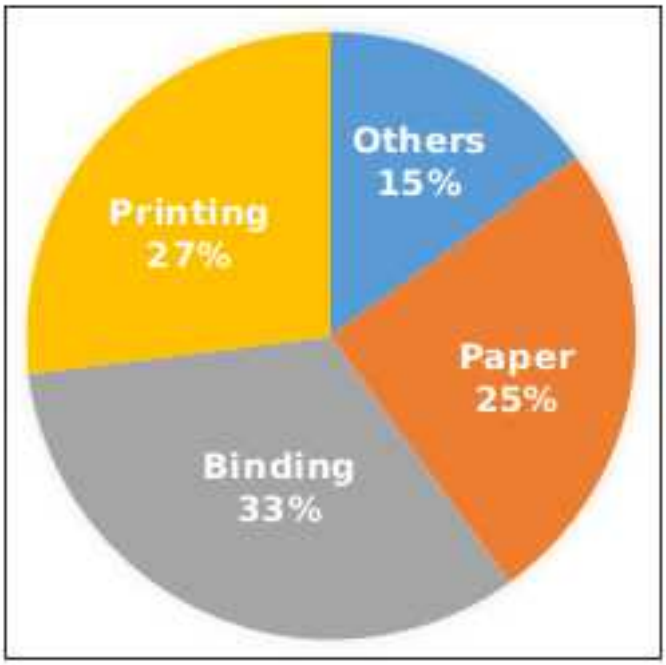
= $3(sin^2\theta + cos^2\theta)$

= $3 \times 1 = 3$

=> Ans - (A)

Instructions

The given pie chart shows the expenditure (in degrees) incurred in making a book.



Question 146

If the total expenditure is Rs 60000, then what is the expenditure (in Rs) on the Printing?

A 18400

B 14800

C 13400

D 16200

Answer: D

Explanation:
Total expenditure = Rs. 60,000

Expenditure on Printing (in %) = 27%

=> Expenditure (in Rs) on the Printing = $\frac{27}{100} \times 60,000$

= $27 \times 600 = Rs.\ 16,200$

=> Ans - (D)

Question 147

What is the central angle (in degrees) of the sector made by the expenditure on Paper?

A 25

B 75

C 90

D 120

Answer: C

Explanation:
Expenditure on paper (in %) = 25%

=> Central angle = $\frac{25}{100} \times 360^\circ$

= $\frac{360}{4} = 90^\circ$

=> Ans - (C)

Question 148

The expenditure on Binding is how much percent more than the expenditure on Paper?

A 32

B 24.24

C 28.18

D 34

Answer: A

Explanation:
Expenditure on paper (in %) = 25%

Expenditure on binding (in %) = 33%

=> Required % = $\frac{(33-25)}{25} \times 100$

= $8 \times 4 = 32\%$

=> Ans - (A)

Question 149

If expenditure on Paper is Rs 20000, then what is the expenditure (in Rs) on Binding?

A 24600

B 26400

C 28000

D 22800

Answer: B

Explanation:
Expenditure on paper = $25\% = Rs.\ 20,000$

=> Expenditure on binding = $33\% = \frac{20,000}{25} \times 33$

= $800 \times 33 = Rs.\ 26,400$

=> Ans - (B)

Question 150

In Others there are only two types of expenditures viz. Marketing and Distribution in ratio 3 : 2 respectively. What will be the central angle (in degrees) made by the sector of expenditure on Marketing?

A 21.6

B 32.4

C 27

D 36

Answer: B

Explanation:
Expenditure (in %) in others = 15%

Expenditure on Marketing (in %) = $\frac{3}{(3+2)} \times 15 = 9\%$

=> Central angle (in degrees) made by the sector of expenditure on Marketing = $\frac{9}{100} \times 360^\circ$

= 32.4°

=> Ans - (B)

English

Instructions

In the following question, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.

Question 151

Not only her husband (a:/ but even her father (b:/ also find her selfish. (c:/ No Error (d:

A 1

B 2

C 3

D 4

Answer: C

Question 152

The West Indies team had (a:/ not won any match (b:/ last year. (c:/ No Error (d:

A 1

B 2

C 3

D 4

Answer: D

Question 153

If you inform me of Kanika's (a:/ arrival time I shall go to (b:/ attend her at the airport. (c:/ No Error (d:

A 1

B 2

C 3

D 4

Answer: B

Question 154

Hardly had he come out of the (a:/ cinema hall then the bomb exploded (b:/ and shattered the hall completely. (c:/ No Error (d:

A 1

B 2

C 3

D 4

Answer: B

Question 155

Because copper prices are going down (a:/ demand for alternative (b:/ products to copper are lessening. (c:/ No Error (d:

A 1

B 2

C 3

D 4

Answer: C

Instructions

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.

Question 156

I agree ____ your proposal.

A for

B of

C to

D on

Answer: C

Question 157

As soon as he received the call _____ the hospital, he left the home.

A off

B with

C from

D at

Answer: C

Question 158

While travelling to Bangalore I ran _____ a very old friend of mine.

A across

B up

C against

D into

Answer: D

Question 159

I will leave Australia before three months _____.

A would have passed

B would pass

C have passed

D will pass

Answer: C

Question 160

Ever since Rashmi's parents died, her maternal grandparents had _____ all her needs.

A seen off

B seen through

C seen to

D seen by

Answer: C

Instructions

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

Question 161

Welter

A turmoil

B laconic

C difficult

D vile

Answer: A

Question 162

Decrepit

A firm

B fate

C feeble

D flee

Answer: C

Question 163

Melancholy

A thrifty

B curious

C sorrowful

D chastity

Answer: C

Question 164

Hysteria

A ignorance

B generous

C madness

D expensive

Answer: C

Question 165

Reticence

A substitute

B reserve

C flatter

D request

Answer: B

Instructions

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

Question 166

Expurgate

A slide

B permit

C decline

D fall

Answer: B

Question 167

Virtuous

A sinful

B disagreeable

C equivocal

D incredible

Answer: A

Question 168

Wicked

A cautious

B anxious

C doubtful

D righteous

Answer: D

Question 169

Chagrin

A remorse

B sniffle

C famished

D pleasure

Answer: D

Question 170

Diabolical

A lavish

B ornate

C wicked

D moral

Answer: D

Instructions

In the following question, out of the four alternatives, select the alternative which best expresses the meaning of the idiom/phrase.

Question 171

Faint hearted

A Calm

B Timid

C Lovable

D Courageous

Answer: B

Question 172

To lead astray

A To take back what you have said

B To misguide

C To achieve two results with one effort

D To apologize humbly

Answer: B

Question 173

To make a pile

A To keep at a distance

B To make a lot of money

C To aggravate the situation

D To face the risk

Answer: B

Question 174

Back out of

A Decimate

B Record

C Withdraw

D Pertain

Answer: C

Question 175

Throw over

A Enumerate

B Invent

C Reprimand

D Reject

Answer: D

Instructions

Improve the bracketed part of the sentence.

Question 176

She doesn't hesitate to do whatever her husband (does).

A would do

B did

C shall do

D no improvement

Answer: D

Question 177

The teacher was angry (with) Rahul as he had not done the homework.

A from

B at

C on

D no improvement

Answer: D

Question 178

Kunal has done nothing (from) yesterday.

A since

B through

C after

D no improvement

Answer: A

Question 179

The boss has instructed all of us to finish the project by tomorrow, (isn't it)?

A didn't she?

B hasn't she?

C has she?

D no improvement

Answer: B

Question 180

Garima has her meal at three, (when she has it), she goes off to sleep.

A when she will have it

B when she has had it

C when she will have had it

D no improvement

Answer: B

Instructions

Question 181

In the following question, out of the four alternatives, select the alternative which is the best substitute of the phrase.
A person who starves the body for the good of the soul

A pacifist

B paranoia

C ascetic

D idiosyncrasy

Answer: C

Question 182

To make evasive or misleading statement

A prevaricate

B peroration

C sophist

D ineffable

Answer: A

Question 183

A very delicate flaw or mistake which is not expected from the person making it

A sanguine

B sacrament

C solecism

D sententious

Answer: C

Question 184

The practice of taking exorbitant or excessive interest on the money lent

A emissary

B usury

C venal

D macabre

Answer: B

Question 185

Sea with a group of many islands

A archipelago

B scullery

C ablution

D etiology

Answer: A

Instructions

In the following question, four words are given out of which one word is incorrectly spelt. Select the incorrectly spelt word.

Question 186

A curriculum

B couragious

C collaborate

D cylinder

Answer: B

Question 187

A deficiency

B dictionary

C diaphragm

D diabeties

Answer: D

Question 188

A advertise

B addiction

C anniversory

D amateur

Answer: C

Question 189

A restaurant

B rhinoceros

C righteous

D rehetorical

Answer: D

Question 190

A successive

B tomorrow

C solemly

D trespasser

Answer: C

Instructions

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.
Broadly speaking, education aims to _____ to objectives - first, to train the student in such a way as to make his life happy and _____, and secondly to provide him with _____ of various kinds. The knowledge imparted by education embodies the immense _____ acquired by the human race through ages. This knowledge, again, can be classified under two heads-one, relating to the _____ or reasoning, the other relating to the sphere of feeling.

Question 191

Broadly speaking, education aims to _____ two objectives

A achieve

B determine

C regress

D mark

Answer: A

Question 192

Such a way as to make his life happy and _____,

A challenging

B interesting

C meaningful

D boring

Answer: C

Question 193

And secondly to provide him with _____ of various kinds.

A resources

B power

C knowledge

D money

Answer: C

Question 194

Education embodies the immense _____ acquired by the

A caliber

B happiness

C growth

D experience

Answer: D

Question 195

Classified under two heads-one, relating to the _____ or reasoning, the other

A emotions

B intellect

C senses

D strength

Answer: B

Instructions

A passage is given with five questions following it. Read the passage carefully and select the best answer to each question out of the given four alternatives. Keeping employees happy, motivated, and on the payroll is one of the key concerns to businesses these days because it's an open market for top talent. A good employee can walk out of the door today and have a comparable or better job tomorrow. Which brings up a very important question: what would the companies do to keep away that person from even thinking about going to work elsewhere? Gone are the days when the monthly paycheck and two weeks' vacation a year were enough to keep employees happy. Employers must come up with irresistible incentives to keep top talent onboard. The results of a recent survey by

Fortune Magazine on why people leave their jobs shows that 30 percent leave for better compensation and benefits, 27 percent for a better career opportunity, 27 percent for new experience, 21 percent are dissatisfied with opportunities at current job, and 16 percent desire to change careers or industries. Money is no longer the only major motivator. So, is this an onsite daycare center for working parents? Paying for all or part of their health insurance? Or offering educational assistance or paying for certification? On an annual ski trip, paid foreign tours, onsite car washes and oil changes? Or free laundry and dry cleaning facilities? Or prized stock options? Well it could be anything as long as it can keep the employees motivated. There are perks other than monetary gains or raise in pay package which can make employees feel happy and satisfied and the feel good factor.

Question 196

According to the passage, what is not the key concern of the businesses these days?

A happiness of employees

B motivating employees

C keeping employees on payroll

D criticizing the employees performance

Answer: D

Question 197

What does employers do to its employees now-a-days to keep top talent onboard?

A monthly pay check

B irresistible incentives

C two weeks' vacation a year

D maternity leaves

Answer: B

Question 198

Which of the following reason is not being mentioned in the passage in regard to people leaving their jobs?

A family constraints especially after getting married

B dissatisfaction with opportunities at current job

C better compensation and benefits in new job

D to have a new experience

Answer: A

Question 199

What does feel good factor mean with respect to employees?

A monetary gains to employees

B social acceptance

C opportunity given to employees to work abroad

D anything which can keep employees happy and satisfied

Answer: D

Question 200

What can be the suitable title for the passage?

A Incentives to employees

B Money - a major motivator for employees

C Giving employees a feel good factor

D Challenges to keep employees onboard

Answer: C