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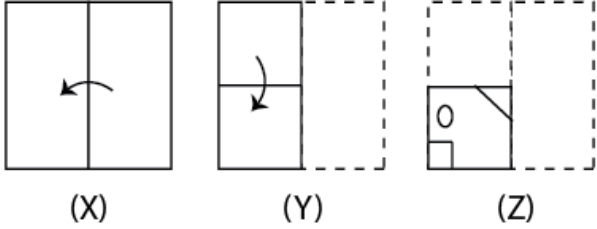
Reasoning

Instructions

For the following questions answer them individually.

Question 1

The sequence of folding a piece of square paper and the manner in which the folded paper has been cut is shown in the figures X, Y and Z. How would this paper look when unfolded?



- A
- B
- C
- D

Answer: A

Question 2

Select the set of numbers that is similar to the following set.

{9, 16, 23 }

- A {7, 15, 25}
- B {4, 9, 16}
- C {15, 24, 33}
- D {16, 25, 32}

Answer: C

Question 3

Which two numbers should be interchanged to make the given equation correct?

$$9 + 4 \div 2 - 6 \times 3 = 4 + 3 \times 6 - 9 + 1$$

- A 6 and 3
- B 4 and 9
- C 4 and 2
- D 6 and 4

Answer: D

Question 4

In a code language, BACHELOR is written as SNMDIBBA. How will COHESION be written as in that language?

- A ONIFTIBP
- B ONIRFGPB
- C NPHTDIND
- D BPJTFINO

Answer: B

Question 5

Three of the following four words are alike in a certain way and one is different. Find the odd one out.

- A Para e ogram
- B Hexagon
- C Rhombus
- D E pse

Answer: D

Question 6

Which number will replace the question mark (?) in the following series?

4, 10, 18, 38, ?, 150

- A 74
- B 84
- C 70
- D 73

Answer: A

Question 7

If FAKE is coded as 52106 and MAD is coded as 1225, then how will DEER be coded as?

- A 36419
- B 36420
- C 47520
- D 35418

Answer: A

Question 8

Which two signs should be interchanged to make the following equation correct?

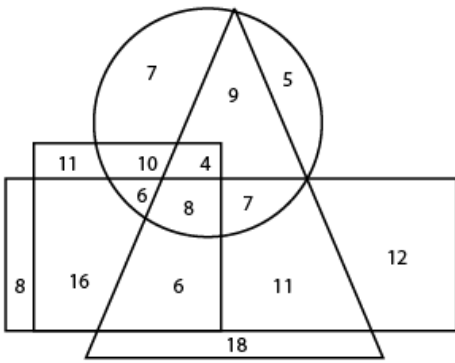
$$18 + 12 \times 8 - 6 \div 3 = 9$$

- A \times and \div
- B $-$ and \times
- C \div and $+$
- D $+$ and \times

Answer: C

Question 9

In the following diagram, the triangle represents 'actors'. the circle represents 'male'. the rectangle represents 'painters' and the square represents 'artists'. The numbers in different segments show the number of persons.



How many male actors are painters but not artists?

- A 8
- B 13
- C 7
- D 15

Answer: C

Explanation:

Total number of male actors who are painters but not artists = 7

Question 10

Select the option that is related to the third number in the same way as the second number is related to the first number.

24 : 13 :: 38 : ____

- A 25
- B 17
- C 20
- D 23

Answer: C

Explanation:

As, $(13 \times 2) - 2 = 24$

Similarly,

$(20 \times 2) - 2 = 38$.

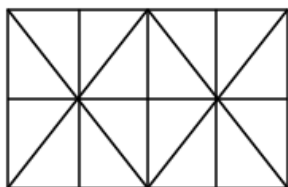
Opt on C is correct

Question 11

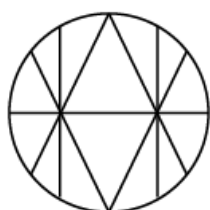
Select the option in which the given figure is embedded.



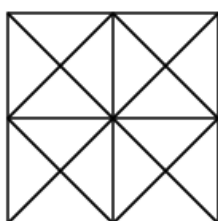
A



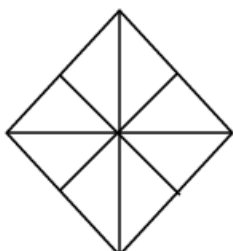
B



C



D



Answer: A

Question 12

Three of the following four number-pairs are alike in a certain way and one is different. Find the odd one out.

A 123 : 456

B 456 : 798

C 234 : 567

D 345 : 678

Answer: B

Explanation:

According to question,

$$(678 - 345) = 333 \quad (798 - 456) = 342$$

$$(456 - 123) = 333 \quad (567 - 234) = 333$$

So, option (b) is correct answer.

Question 13

Select the set of numbers that is similar to the following set.

{10, 19, 32}

A {12, 25, 49}

B {3, 7, 10}

C {5, 14, 19}

D {7, 13, 23}

Answer: D

Explanation:

According to pattern Option D is correct

Question 14

Select the option that is related to the third term in the same way as the second term is related to the first term.

ATKR : FYPW :: TLPG :

A XQTL

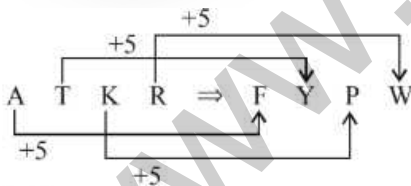
B YQUL

C XTQL

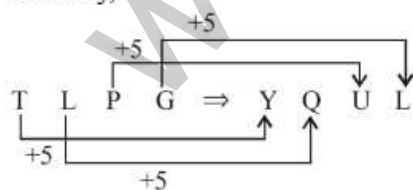
D YTQL

Answer: B

Explanation:

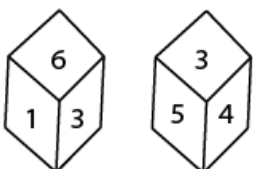


Similarly,



Question 15

TWO positions of the same dice are given. Which number will be at the bottom if '4' is at the top?



- A 3
- B 2
- C 6
- D 1

Answer: D

Explanation:

The numbers 1, 6, 4 and 5 are on the adjacent faces of number 3.

Therefore, the number 2 lies opposite to 3

\therefore The number 1 is opposite of 4.

Question 16

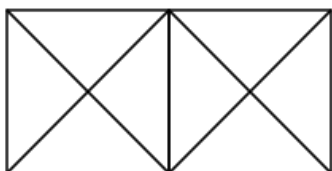
In a code language, MACHINE is written as CAMHNI. How will MONSTER be written as in that language?

- A OMNSETR
- B NOMSRET
- C SNOMRET
- D NOMETSR

Answer: B

Question 17

How many triangles are there in the following figure?

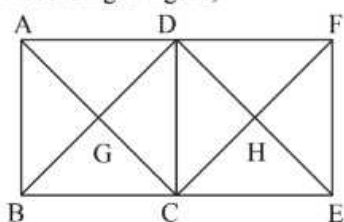


- A 10
- B 18
- C 16
- D 14

Answer: B

Explanation:

According to figure,

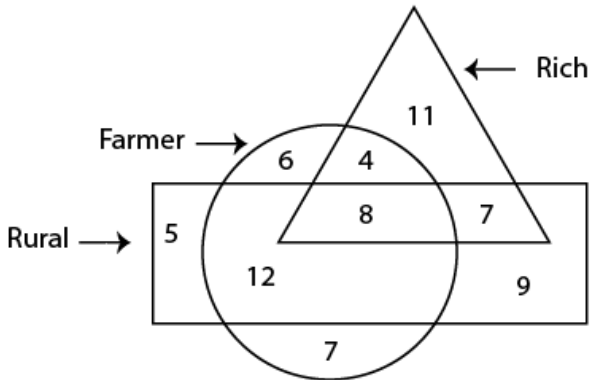


$\triangle AGD, \triangle AGB, \triangle ADB, \triangle ACF, \triangle ABC, \triangle ADC,$
 $\triangle BGC, \triangle BDC, \triangle BDE, \triangle DGC, \triangle DHF, \triangle DHC,$
 $\triangle DCF, \triangle DEC, \triangle DFE, \triangle CHE, \triangle CFE, \triangle FHE$

Thus, there are 18 triangles.

Question 18

In the following diagram, the triangle represents 'rich'. the circle represents 'Farmer' and the rectangle represents 'rural'. The numbers in different segments show the number of persons.



How many rich Farmers are not rural?

- A 7
- B 8
- C 4
- D 12

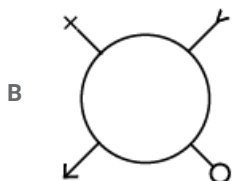
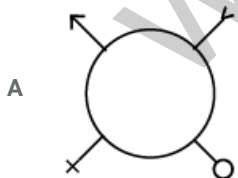
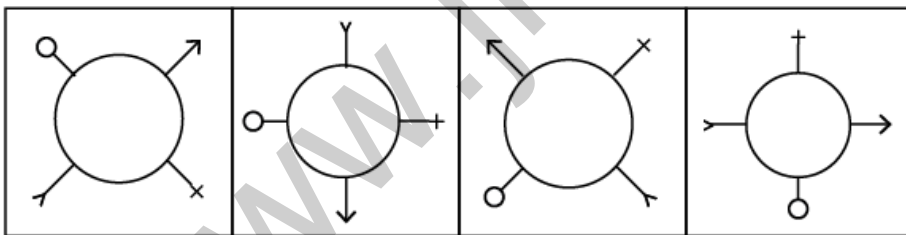
Answer: C

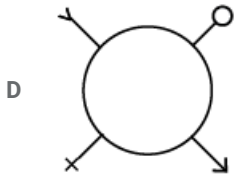
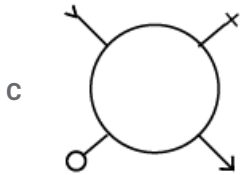
Explanation:

Total number of rich farmers who are not rural = 4

Question 19

Select the figure that will come next in the following series.





Answer: B

Question 20

Three of the following four words are alike in a certain way and one is different. Find the odd one out.

- A Mars
- B Moon
- C Venus
- D Mercury

Answer: B

Explanation:

Except Moon, All are planet. but moon is satellite.

Question 21

Select the correct alternative to indicate the arrangement of the following words in a logical and meaningful order.

1. Diagnosis
2. Recovery
3. Pain
4. Treatment
5. Hospital

- A 3, 5, 4, 1, 2
- B 5, 3, 1, 4, 2
- C 5, 1, 4, 1, 2
- D 3, 5, 1, 4, 2

Answer: D

Explanation:

The correct meaningful order is :

Pain → Hospital → Diagnosis → Treatment → Recovery

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

Question 22

Three of the following four number-pairs are alike in a certain way and one is different. Find the odd one out.

A 36 : 63

B 24 : 48

C 48 : 84

D 56 : 75

Answer: D

Explanation:

Except option (D), Digits of all second numbers are
Opposite of digits of first numbers.

Question 23

If CAB = 13 and FEED = 41, then JADE =

A 45

B 41

C 35

D 43

Answer: B

Explanation:

$$\begin{array}{c} \text{C} \quad \text{A} \quad \text{B} \\ 3 \quad 1 \quad 2 \end{array} \Rightarrow (3+1+2) \times 2 + 1 = (6 \times 2) + 1 = 13$$

$$\begin{array}{c} \text{F} \quad \text{E} \quad \text{E} \quad \text{D} \\ 6 \quad 5 \quad 5 \quad 4 \end{array} \Rightarrow (6+5+5+4) \times 2 + 1 = (20 \times 2) + 1 = 41$$

$$\begin{array}{c} \text{J} \quad \text{A} \quad \text{D} \quad \text{E} \\ 10 \quad 1 \quad 4 \quad 5 \end{array} \Rightarrow (10+1+4+5) \times 2 + 1 = (20 \times 2) + 1 = 41$$

Question 24

Select the option that is related to the third term in the same way as the second term is related to the first term.

HKNQ : JIPO :: DGJM:

A EELK

B FENO

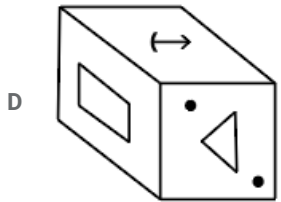
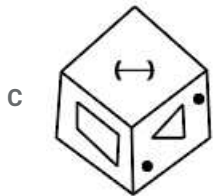
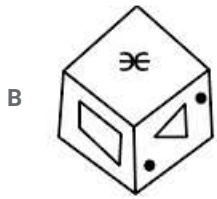
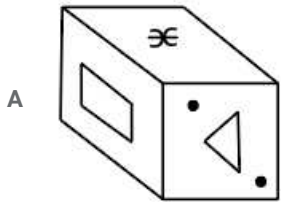
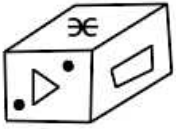
C FELK

D FEJK

Answer: C

Question 25

Select the correct mirror image of the given figure when the mirror is placed on the right of the figure



Answer: A

Question 26

Which number will replace the question mark (?) in the following series?

3, 4, 7, 11, 18, ?

A 31

B 22

C 25

D 29

Answer: D

Explanation:

The pattern is : $3 + 4 = 7$, $4 + 7 = 11$, $7 + 11 = 18$

$\therefore 11 + 18 = 29$

Question 27

Which of the following interchanges of signs and numbers would make the given equation correct?

$$12 \div 4 + 2 - 6 \times 3 = 3 \div 12 + 6 \times 2 - 4$$

A - and +, 6 and 4

B \div and +, 6 and 4

C \times and -, 4 and 6

D \times and \div , 4 and 6

Answer: B

Explanation:

$$\begin{aligned} 12 \div 4 + 2 - 6 \times 3 &= 3 + 12 + 6 \times 2 - 4 \\ \Rightarrow 12 + 6 \div 2 - 4 \times 3 &= 3 + 12 \div 4 \times 2 - 6 \\ \Rightarrow 12 + 3 - 12 &= 3 + 3 \times 2 - 6 \\ \Rightarrow 15 - 12 &= 3 + 6 - 6 \\ \Rightarrow 3 &= 3 \text{ (L. H. S. = R. H. S.)} \end{aligned}$$

Opt on B is correct

Question 28

Three of the following four number-pairs are alike in a certain way and one is different. Find the odd one out.

A 9 : 17

B 7 : 11

C 13 : 29

D 11 : 25

Answer: D

Explanation:

$$(7 \times 3) - 10 = 11, (9 \times 3) - 10 = 17, (13 \times 3) - 10 = 29$$

But, $(11 \times 3) - 10 = 23 \neq 25$.

Opt on D is Odd

Question 29

Two statements are given, followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:

All computers are instruments.

Some machines are computers.

Conclusions:

I. All instruments are computers.

II. Some machines are instruments.

III. Some instruments are machines.

A Only conclusions II and III follow.

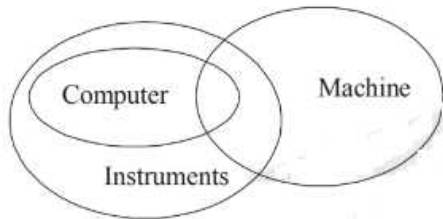
B Only conclusions I and III follow.

C All the conclusions follow.

D Only conclusions I and II follow.

Answer: A

Explanation:



So, only conclusions II and III follows.

Question 30

Select the option that is related to the third number in the same way as the second number is related to the first number.

6 : 35 :: 9 :

A 80

B 99

C 65

D 85

Answer: A

Explanation:

As, $(6)^2 - 1 = 35$

Similarly, $(9)^2 - 1 = 80$.

Question 31

Which letter will replace the question mark (?) in the following series?

B, D, G, I, L, ?, Q

A N

B P

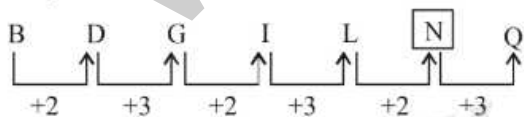
C O

D M

Answer: A

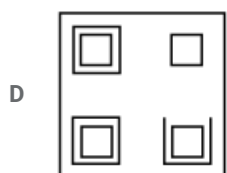
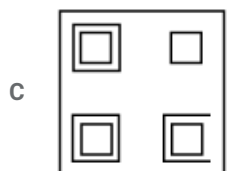
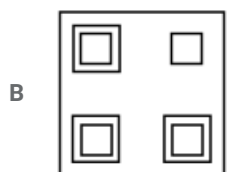
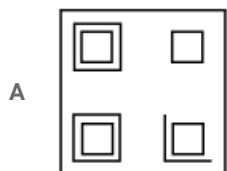
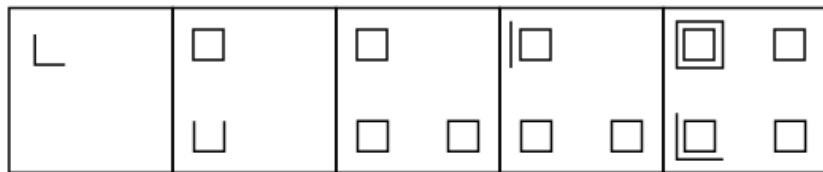
Explanation:

The pattern is :



Question 32

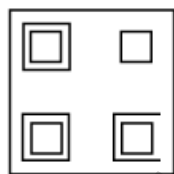
Select the figure that will come next in the following series.



Answer: D

Explanation:

Two lines are added in box each



Question 33

Select the word-pair in which the two words are related in the same way as are the two words in the given word-pair.

Circle : Circumference

- A Square : Diagonals
- B Triangle : Area
- C Rectangle : Perimeter
- D Plane : Dimensions

Answer: C

Explanation:

As, the distance round a circle is called circumference.

Similarly, the distance round a rectangle is called perimeter.

Question 34

Select the word pair in which the two words are related in the same way as are the two words in the given word-pair.

Small : Dimension

- A Co d : W nter
- B Heavy : We ght
- C Tr ang e : Area
- D Heat: Temperature

Answer: B

Explanation:

As, small is denoted by dimension

Similarly, Heavy is denoted by weight.

Question 35

Select the correct alternative to indicate the arrangement of the following words in a logical and meaningful order.

1. Injury
2. Recovery
3. Accident
4. Showroom
5. Drive
6. Car

- A 6, 4, 3, 5, 1, 2
- B 4, 6, 5, 3, 1, 2
- C 4, 6, 5, 3, 2, 1
- D 5, 6, 3, 2, 1, 4

Answer: B

Explanation:

The correct meaningful order

Showroom → Car → Drive → Accident → Injury → Recovery

(4) (6) (5) (3) (1) (2)

Opt on B is correct

Question 36

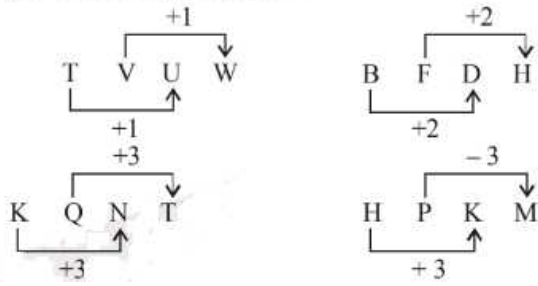
Three of the following four letter-clusters are alike in a certain way and one is different. Find the odd one out.

- A KQNT
- B BFDH
- C TVUW
- D HPKM

Answer: D

Explanation:

(d) According to question



Opt on D s correct

Question 37

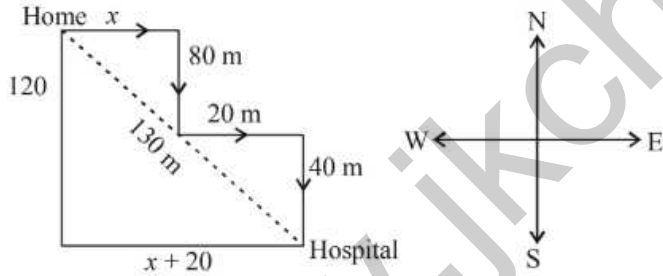
Afeler starting from his house, Naren walked a few meters towards the east. From there, he took a right turn and walked 80 m, and then took a left hurt and walked 20 111. Finally. he took a right turn again and walked 40 m to reach the hospital. If the air distance between his house and the hospital is 130 111. how far did Naren walk towards the east initially?

- A 25 m
- B 50 m
- C 30 m
- D 40 m

Answer: C

Explanation:

4. (d) According to question.



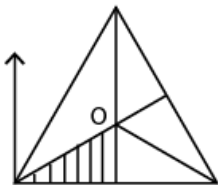
$$(130)^2 = (120)^2 + (x + 20)^2$$

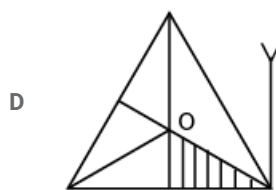
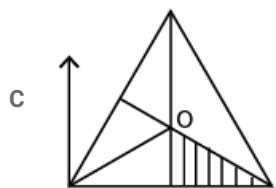
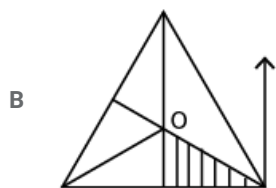
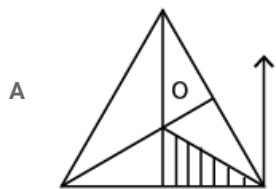
$$\therefore (130)^2 - (120)^2 = (x + 20)^2$$

$$\therefore x = 30\text{m}$$

Question 38

Select the correct mirror image of the given figure when the mirror is placed on the right of the figure.

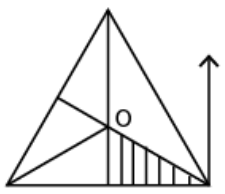




Answer: B

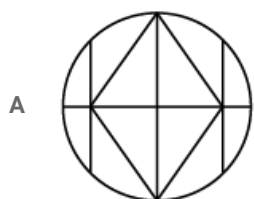
Explanation:

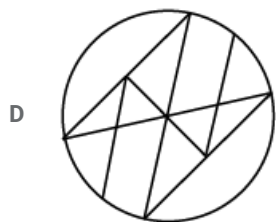
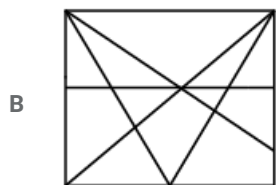
We know that in mirror images, left becomes right, right becomes left



Question 39

Select the option in which the given figure is embedded. (Rotation is not allowed)

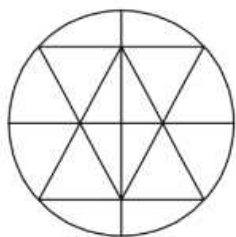




Answer: C

Explanation:

According to given figure Option C will be correct option



Question 40

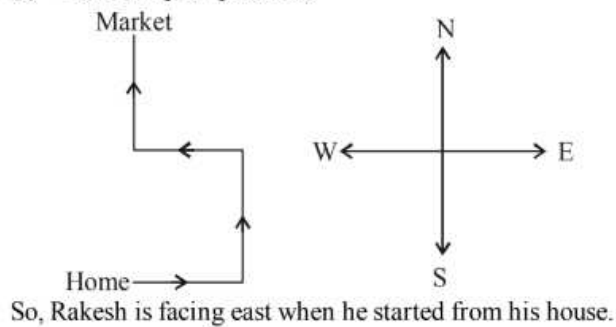
Rakesh starts walking from his house and then takes two left turns and one right turn to reach the market. If he is facing north on reaching the market, in which direction was Rakesh facing when he started from his house?

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

Answer: A

Explanation:

(c) According to question,



Question 41

'Disease' is related to 'Pain' in the same way as 'Accident' is related to '.....'.

- A Injury
- B Carelessness
- C Driving
- D Collision

Answer: A

Explanation:

As, pain is caused by disease. Similarly, Injury is caused by accident.

Question 42

Two statements are given, followed by three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:

Some rivers are brooks.

No brook is a stream.

Conclusions:

- I. No stream is a brook.
- II. Some streams are rivers.
- III. Some brooks are rivers.

- A Only conclusion I follows.
- B Only conclusions I and III follow.
- C Only conclusions II and III follow.
- D Only conclusions I and II follow.

Answer: B

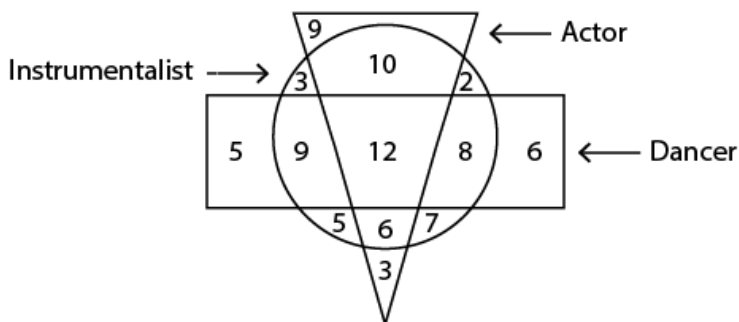
Explanation:



According to the resultant figure, Option B is correct.

Question 43

In the following diagram, the triangle represents 'actors'. The circle represents 'instrumentalists' and the rectangle represents 'dancers'. The numbers in different segments show the number of persons.



How many dancers are instrumentalists but not actors?

- A 17
- B 12
- C 20
- D 21

Answer: A

Explanation:

(a) According to Venn diagram.

Total number of dancers who are instrumentalists but not actors = $(8 + 9) = 17$

Question 44

Three of the following four letter-clusters are alike in a certain way and one is different. Find the odd one out.

- A EGIK
- B MNOQ
- C BDFH
- D QSUW

Answer: B

Explanation:

(b) $Q \xrightarrow{+2} S \xrightarrow{+2} U \xrightarrow{+2} W,$
 $B \xrightarrow{+2} D \xrightarrow{+2} F \xrightarrow{+2} H,$
 $E \xrightarrow{+2} G \xrightarrow{+2} I \xrightarrow{+2} K.$

But

$M \xrightarrow{+1} N \xrightarrow{+1} O \xrightarrow{+2} Q$

So, option (b) is odd.

Question 45

'Bird' is related to 'Wings' in the same way as 'Fish' is related to '.....'.

- A Be y
- B Sca es
- C G s
- D F ns

Answer: D

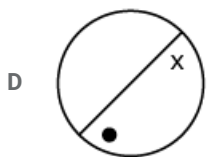
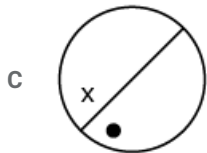
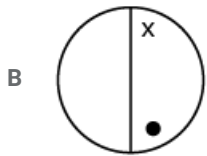
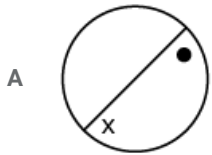
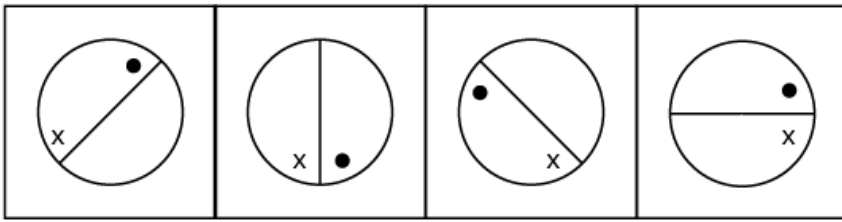
Explanation:

As bird has wings which helps it to fly.

Similarly, Fish has fins which helps it to swim.

Question 46

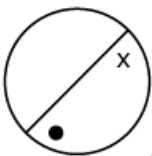
Select the figure that will come next in the following series.



Answer: D

Explanation:

According to the figure we can clearly see that the objects in the figure move clockwise to the following figure will be the answer



Question 47

Which letter-cluster will replace the question mark (?) in the following series?

BECD, FIGH, KNLM, ?, XAYZ

A QTRS

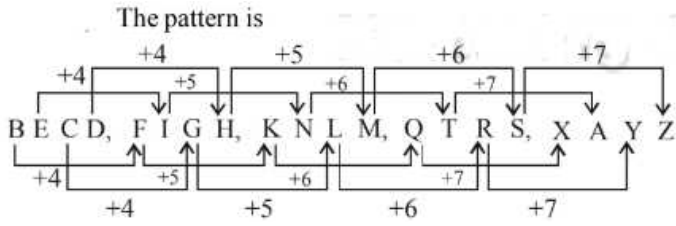
B QWSU

C ORPQ

D PSQR

Answer: A

Explanation:



according to pattern (shown into figure)

option A is Correct

Question 48

Which number will replace the question mark (?) in the following series?

0, 1, 5, 14, 30, ?

- A 43
- B 46
- C 53
- D 55

Answer: D

Explanation:

According to question,

$$0 + 1^2 = 1$$

$$1 + 2^2 = 5$$

$$5 + 3^2 = 14$$

$$14 + 4^2 = 30$$

summary

$$30 + 5^2 = 55 \text{ Ans}$$

Question 49

Three of the following four number-pairs are alike in a certain way and one is different. Find the odd one out.

- A 25 : 50
- B 49 : 82
- C 36 : 63
- D 9 : 26

Answer: C

Question 50

Select the number-pair in which the two numbers are related in the same way as are the two numbers in the given pair.

65 : 126

A 26 : 65

B 2 : 10

C 37 : 50

D 9 : 28

Answer: D

General knowledge

Instructions

For the following questions answer them individually.

Question 51

The Mahabodhi Temple in is the pilgrimage site of the Buddhists.

A Madhya Pradesh

B Odisha

C Assam

D Bihar

Answer: D

Question 52

According to data released by Central Statistics Office (CSO) in December 2018, factory output measured in terms of Index of Industrial Production (IIP) grew in October 2018 as against 4.5% in September 2018.

A 8.1%

B 7.5%

C 6%

D 6.7%

Answer: A

Question 53

The is an ancient Indian treatise on statecraft, economic policy and military strategy that was written in Sanskrit. Kautilya is traditionally credited as the author of the text.

A Rigveda

B Arthashastra

C Puranas

D Charaka Samhita

Answer: B

Question 54

Akbar commissioned to chronicle the story of his father Humayun, 'Humayun—nama'.

- A Gu badan Begum
- B Jodha Begum
- C Jagat Gosain Begum
- D Marham-uz-Zaman

Answer: A

Question 55

In August 2018, India won four bronze medals in the Wushu (Chinese Kung Fu) sporting event at held in Indonesia.

- A FIFA Confederations Cup
- B UEFA Champions League 2018
- C Jakarta-Palembang 2018 Asian Games
- D Winter Olympics 2018

Answer: C

Question 56

The Government of has decided to ban the production, sale and use of single-use plastic products from 1 March 2019.

- A Delhi
- B Maharashtra
- C Goa
- D Puducherry

Answer: D

Question 57

The Swadesh Darshan Scheme aims to promote international and domestic tourism across India. Which of the following is NOT one of the 13 thematic circuits under the scheme of the Ministry of Tourism?

- A Mahabharata Circuit
- B Ramayana Circuit
- C Desert Circuit
- D Tribal Circuit

Answer: A

Question 58

Identify the disease caused by the deficiency of Vitamin B1.

- A Rickets
- B Arboflavinosis
- C Beriberi
- D Gout

Answer: C

Question 59

Which of the following is the universal recipient blood group?

- A O
- B B
- C AB
- D A

Answer: C

Question 60

In September 2018, won the Duleep Trophy by defeating defending champion India Red at NPR College Ground in Dindigul, Tamil Nadu.

- A India Yellow
- B India Black
- C India Green
- D India Blue

Answer: D

Question 61

Standing committee on finance headed by was selected for outstanding performance among the Parliamentary Standing Committees for the Sansad Rama Awards in Chennai.

- A Nishkant Dubey
- B M Veerappa Moily
- C Dhananjay Mahadik
- D NK Premachandran

Answer: B

Question 62

..... is a support scheme of Odisha whose primary targets are small farmers, cultivators and landless agricultural labourers.

- A Krushak Ass stance for L ve hood and Income Augmentat on (KALIA)
- B Aahar Yojana (JAY)
- C Khush Scheme
- D Asha Ass stance for L ve hood and Income Augmentat on (AALIA)

Answer: A

Question 63

The in the human body controls every activity that you perform.

- A resp ratory system
- B nervous system
- C d gest ve system
- D reproduct ve system

Answer: B

Question 64

'Red Tape' in an economy refers to:

- A Low R sk Market
- B H gh R sk Market
- C R g d conform ty to forma m cs
- D R g d exc se ru es

Answer: C

Question 65

In humans, fertilisation usually takes place in the

- A Fa op an tube
- B Vag na
- C Ovary
- D Uterus

Answer: A

Question 66

In January 2019, the Ministry of drafted National Action Plan for Drug Demand Reduction (2018-2023).

- A Soc a Just ce and Empowerment
- B P ann ng and Deve opment
- C Hea th
- D Educat on

Answer: A

Question 67

Where were the first headquarters of the Arya Samaj?

- A Bombay
- B Nas k
- C Ca cutta
- D Lahore

Answer: D

Question 68

..... is the first greenfield airport to be constructed in the northeastern region of India.

- A Pakyong
- B Lengpu
- C Paro
- D Bagdogra Internat ona

Answer: A

Question 69

The Judges of the Supreme Court are appointed by the President under Article of the Constitution of India.

- A 217
- B 224(1)
- C 21
- D 124(2)

Answer: D

Question 70

'The Hindu Young World-Good books Award for Best Book 2018: Non-Fiction' was awarded toauthor of the book 'A Brush with Indian Art' at the Hindu Lit for Life 2019.

- A Ven ta Coe ho
- B Raj v E pe
- C V nayak Verma
- D Marnta Na ny

Answer: D

Question 71

In January 2019, Chief Minister of Tripura, Biplab Kumar Deb unveiled the official logo of the state's tea which features, the iconic landmark of Tripura.

- A Neermaha pa ace
- B P ak
- C Ujjayanta pa ace
- D Devtamura

Answer: A

Question 72

Enzymes are that act as catalysts within the living cells.

- A v tam ns
- B prote ns
- C carbohydrates
- D ca c um

Answer: B

Question 73

Which of the following is a dance form from Karnataka?

- A Karma
- B Rouf
- C Baya ata
- D Lava

Answer: C

Question 74

Which MP from Baramati (Maharashtra) was honoured with the 'Sansad Ratna Award' in January 2019 in Tamil Nadu?

- A Meenaksh Lekh

- B Mamtaz Sangham ta
- C Supr ya Su e
- D Butta Renuka

Answer: C

Question 75

Which element is used to make the coils used in water heaters?

- A A m xture of a um n um and copper
- B A m xture of ron and stee
- C N chrome
- D Copper

Answer: C

Question 76

The in Kanyakumari was awarded the international Gandhi Peace Prize (2015) for its contribution to rural development, education and development of natural resources.

- A V vekananda Kendra
- B Akshaya Kendra
- C Sewa Kendra
- D Saanjh Kendra

Answer: A

Question 77

The Collegium for the appointment of Judges of Supreme Court is headed by the of India.

- A Pr me M n ster
- B Ch ef Just ce
- C Pres dent
- D Par ament

Answer: B

Question 78

..... are called suicidal bags of the cell.

- A R bosomes
- B Go g Apparatus
- C Lysosomes

D M tochondr a

Answer: C

Question 79

..... won at the Australian Open Women's Double Championship in January 2019.

A Zhang Shaua and Samantha Stosur

B Barbora Krejc kova and Kater na S n akova

C T mea Babos and Barbora Krejc kova

D T mea Babos and Kr st na M adenov c

Answer: A

Question 80

In January 2019, the Cabinet Committee on Economic Affairs gave its approval for the capacity expansion project of Refinery from 3 MMTPA (million metric tonne per annum) to 9 MMTPA.

A Baraun

B Numa garh

C Mathura

D Essar

Answer: B

Question 81

The Union Defence Minister inaugurated the Tamil Nadu Defence Industrial Corridor on 20 January 2019.

A N t n Gadkar

B Radha Mohan S ngh

C Rajnath S ngh

D N rrna a S tharaman

Answer: D

Question 82

....., a one-hour slot on Doordarshan National channel, is an initiative by the Department of Science and Technology along with Doordarshan. Prasar Bharati

A DD Sc ence

B Ind an Sc ence

C Sc ence L ve

D National Science

Answer: A

Question 83

According to the new travel norms set by The Union Home Ministry, Indians aged can travel to Nepal and Bhutan by producing Aadhaar' as Identity proof.

A under 25 and over 55 years

B under 10 and over 60 years

C under 15 and over 65 years

D under 12 and over 55 years

Answer: C

Question 84

In January 2019, Prime Minister Narendra Modi was awarded the first ever for his outstanding leadership of the nation.

A Champions of the Earth Award

B Phipkotter Presidential Award

C Padma Shri

D Padma Bhushan

Answer: B

Question 85

The city of victory, Fatehpur Sikri in was built during the glorious reign of the Mughals.

A Jaipur

B Agra

C Agra

D Bhopal

Answer: C

Question 86

Indian mountaineer is the first woman in the world to climb Mount Everest twice and the first woman to successfully climb Mt. Everest from Kangshung Face.

A Santosh Yadav

B Prernata Agrawa

C Mahavath Puma

D Arunima Sinha

Answer: A

Question 87

In January 2019, President Ram Nath Kovind appointed senior advocates Sanjay Jain and KM Nataraj as of India.

- A Additional Solicitor General
- B Director General
- C Auditor General
- D Secretary General

Answer: A

Question 88

The Union Government bestows national sports awards every year to recognize and reward excellence in sports in India. Which of the following is NOT one of these awards?

- A Dhyan Chand Award
- B Kheelo India Award
- C Dronacharya Award
- D Arjuna Award

Answer: B

Question 89

A January 2019 study by the scientists from National Chemical Laboratory, Pune suggested measuring levels of free albumin and albumin attached to glucose molecules in the blood as a diagnostic test for

- A Thyroid
- B Piles
- C Diabetes
- D Tuberculosis

Answer: C

Question 90

Prior to September 2018, was the sole state in India without a functional airport.

- A Nagaland
- B Sikkim
- C Assam
- D Mizoram

Answer: B

Question 91

The 'Vision 2040' document, released at the Global Aviation Summit 2019, estimates that India will need airports.

- A 200
- B 300
- C 250
- D 150

Answer: A

Question 92

..... located in Thekkady. Kerala is the perfect example of nature's bounty with great scenic beauty and rich biodiversity.

- A Dach gam Nat ona Park
- B W d Ass Sanctuary
- C Per yar W d fe Sanctuary
- D Pakha Sanctuary

Answer: C

Question 93

The Khalji or Khilji dynasty, founded by Jalal-ud-din Firuz Khalji ruled large parts of the Indian subcontinent between

- A 1220 and 1290
- B 1290 and 1320
- C 1320 and 1377
- D 1190 and 1220

Answer: B

Question 94

Which of the following best describe the nature of Indian economy?

- A M xed Economy
- B Commun st Economy
- C Cap ta st c Economy
- D Soc a st Economy

Answer: A

Question 95

Megasthenes, a Greek historian visited India in the reign of in the 4th century BC.

- A Alexander
- B Bindusara
- C Chandragupta Maurya
- D Ashoka

Answer: C

Question 96

....., a Moroccan traveller who is known for his extensive travels, came to India during the regime of Muhammad bin Tughlaq.

- A Raphael
- B Ibn Battuta
- C Tsang H
- D Nicolo

Answer: B

Question 97

Which of the following is a dance form from Rajasthan?

- A Kum
- B Dappu
- C Jhumra
- D Marun

Answer: C

Question 98

The monuments of Khajuraho in the state of Madhya Pradesh are fine denotations of the dynasty.

- A Chandela
- B Pala
- C Chalukya
- D Chola

Answer: A

Question 99

..... is an autonomous organisation under the Department of Science and Technology of the Government of India.

- A Prayog Prasar (PP)
- B Arogya Prasar (AP)
- C Vrgyan Prasar (VP)
- D Vrdhan Prasar (VP)

Answer: C

Question 100

The Tyndal Effect is due to.

- A Scatter ng of L ght
- B Refract on of L ght
- C Ref ect on of L ght
- D D spers on of L ght

Answer: A

Quant

Instructions

For the fo ow ng quest ons answer them nd v dua y

Question 101

Pipes A and B can fill a tank in 6 hours and 8 hours respectively and pipe C can empty the full tank in 12 hours. All three pipes are opened together. but pipe A is closed after 3 hours. In how many hours will the remaining part of the tank be filled?

- A 10
- B 9
- C 11
- D 12

Answer: B

Explanation:

Portion of the tank filled in one hour when all the three

$$\text{pipes open together} = \frac{1}{6} + \frac{1}{8} - \frac{1}{12} = \frac{5}{24}$$

$$\text{Portion of tank filled in 3 hours} = \frac{3 \times 5}{24} = \frac{5}{8}$$

$$\text{Remaining empty tank} = 1 - \frac{5}{8} = \frac{3}{8}$$

Now, when pipe A is closed, then, portion of tank filled by B and C in 1 hour

$$= \frac{1}{8} - \frac{1}{12} = \frac{1}{24}$$

$$\text{Time required to fill } \frac{3}{8} \text{ tank} = \frac{3}{8} \times 24 = 9 \text{ hours}$$

Question 102

A sum of ₹ 12,800 is invested partly at 15% per annum and the remaining at 12% per annum simple interest. If the total interest at the end of 3 years is ₹ 5,085. then how much money was invested at 15% per annum?

A ₹ 5,300

B ₹ 7,500

C ₹ 5,800

D ₹ 5,200

Answer: A

Explanation:

Let the money invested at 15% p.a. is x .
then amount invested at 12% p.a. is $(12800 - x)$
ATQ.

$$\frac{x \times 15 \times 3}{100} + \frac{(12800 - x) \times 12 \times 3}{100} = 5085$$

$$\frac{(15 - 12)3x}{100} + 128 \times 12 \times 3 = 5085$$

$$\frac{9x}{100} = 5085 - 4608$$

$$\frac{9x}{100} = 477$$

$$x = \frac{477 \times 100}{9} = ₹ 5300$$

Question 103

A ladder leaning against a wall makes an angle θ with the horizontal ground such that $\sin \theta = \frac{12}{13}$. If the foot of the ladder is 7.5 m from the wall, then what is the height of the point where the top of the ladder touches the wall?

A 8 m

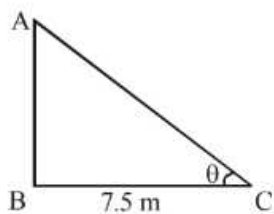
B 15 m

C 18 m

D 12 m

Answer: C

Explanation:



Let AC is a ladder and AB is the height of the wall.

$$\text{Now, in } \triangle ABC, \sin(\theta) = \frac{12}{13}$$

$$\cos\theta = \sqrt{1 - \sin^2\theta}$$

$$= \sqrt{1 - \left(\frac{12}{13}\right)^2}$$

$$= \sqrt{\frac{169 - 144}{169}} = \sqrt{\frac{25}{169}} = \frac{5}{13}$$

$$\therefore \tan\theta = \frac{\sin\theta}{\cos\theta} = \frac{\frac{12}{13}}{\frac{5}{13}} = \frac{12}{5}$$

$$\text{From } \triangle ABC, \tan\theta = \frac{AB}{BC} \Rightarrow \frac{12}{5} = \frac{AB}{7.5}$$

$$AB = \frac{12}{5} \times 7.5 = 18\text{m}$$

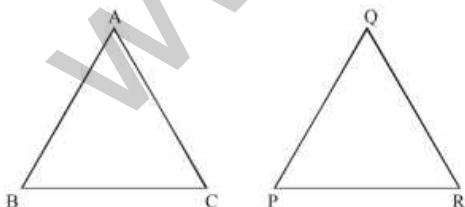
Question 104

Let $\triangle ABC \sim \triangle QPR$ and $\frac{ar(\triangle ABC)}{ar(\triangle QPR)} = \frac{9}{16}$. If AB = 12 cm, BC = 6 cm and AC = 9 cm, then PR is equal to:

- A 12 cm
- B 16 cm
- C 8 cm
- D 9 cm

Answer: C

Explanation:



As $\triangle ABC \sim \triangle QPR$, then

$$\left(\frac{AB}{QP}\right)^2 = \left(\frac{BC}{PR}\right)^2 = \left(\frac{AC}{QR}\right)^2 = \frac{ar(\triangle ABC)}{ar(\triangle QPR)}$$

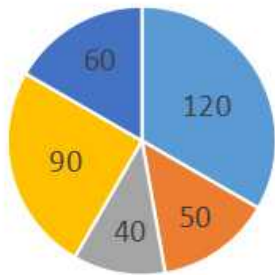
$$\text{so, } \left(\frac{6}{PR}\right)^2 = \frac{9}{16}$$

$$\frac{6}{PR} = \frac{3}{4} \Rightarrow PR = \frac{6 \times 4}{3} = 8\text{cm.}$$

Question 105

Degree of persons using different Transports
(Total 1080 persons).

■ Train ■ Scooter ■ Car ■ Cycle ■ Bus



In the given pie-chart, how many persons are using train to reach their workplace?

- A 360
- B 380
- C 400
- D 320

Answer: A

Explanation:

Total number of persons = 1080.

Degree of persons using train = 120° .

$$\therefore \text{Number of persons using train} = \frac{120}{360} \times 1080 = \boxed{360}$$

Question 106

The square root of which of the following is a rational number?

- A 1489.96
- B 2460.14
- C 5823.82
- D 22504.9

Answer: A

Explanation:

we can solve this by option by option

Square root of rational numbers in the form of fractions

Step I: Obtain the fraction

Step II: If the given square root of the numerator and the denominator are the square roots of numerator and denominator respectively of the given fraction.

Step III: Find the square root of the numerator and denominator separately.

Step IV: Obtain the fraction whose numerator and denominator are the square roots of numerator and denominator respectively of the given fraction.

Step V: The fraction obtained in Step IV is the square root of the given fraction.

so by going option ,

we can convert 1489.96 into fraction $1489 \frac{24}{25}$

as $\sqrt{\frac{37249}{25}}$

here $\sqrt{37249}$ is the square root of 193 and 25 is of 5

So option A is correct ans

Question 107

Two pipes A and B can fill an empty tank in 8 hours and 12 hours respectively. They are opened alternately for 1 hour each, starting with pipe A first. In how many hours will the empty tank be filled?

A 9

B $9\frac{1}{4}$

C $9\frac{1}{2}$

D $9\frac{1}{3}$

Answer: C

Explanation:

Let the capacity of tank = LCM (8,12) = 24L

Pipe A works $\frac{24}{8} = 3L$ per hour

Pipe B works $\frac{24}{12} = 2L$ per hour

If A is opened for 1 hour and then B is opened for 1 hour, they work 5L in 2 hours

number of such cycles $\frac{24}{5} = 4$ or 5 per hour

Remaining 1L will be filled by B in 1 hour

total time taken = $4 \times 2 + 1 = 9\frac{1}{2}$ Ans

Question 108

Two numbers are in the ratio 4 : 7. If their HCF is 26. then the sum of these two numbers will be:

A 286

B 338

C 312

D 364

Answer: A

Explanation:

Let numbers be $4x$ & $7x$

we know that,

$LCM \times HCF = \text{Product of two numbers}$

$LCM \times 26 = 7x \times 4x$

$LCM = \frac{14}{13}x^2$

now LCM of $7x$ & $4x = 28x$

$\rightarrow 28x = \frac{14}{13}x^2$

$x = 26$

the sum of two numbers $7x + 4x = 7 \times 26 + 4 \times 26 = 286$ Ans

Question 109

If $a^3 + b^3 = 5824$ and $a + b = 28$, then $(a - b)^2 + ab$ is equal to:

- A 208
- B 180
- C 236
- D 152

Answer: A

Explanation:

$$a^3 + b^3 = 5824$$

$$(a + b)(a^2 + b^2 - ab) = 5824$$

$$28(a^2 + b^2 - ab) = 5824$$

$$(a^2 + b^2 - ab) = \frac{5824}{28} = 208$$

Question 110

A sum of ₹ 18,000 is invested for 16 months at 8% per annum compounded half-yearly. What is the percentage gain at the end of 16 months. to the nearest whole number?

- A 10%
- B 11%
- C 12%
- D 9%

Answer: B

Explanation:

Given,

Principal Amount, P Rs. 18000

Rate, R 8%

Time, T 16 month 1 yr 4 month

Compounded half yearly,

So, number of times compounded half yearly 2

Rate become 4%

According to the question,

$$A = P \left(1 + \frac{R}{100}\right)^n$$

$$A = 18000 \left(1 + \frac{4}{100}\right)^2 = 18720$$

A Rs. 18720

Now for next 4 month we have

$$SI = \frac{PRT}{100}$$

$$SI = \frac{(18720 \times 4 \times \frac{4}{12})}{100} = 249.6$$

SI 249.6

Amount after 16 month $18720 + 249.6 = 18969.6$

$$\text{Percentage increase} = \frac{(18969.6 - 18000)}{18000} \times 100 =$$

11% Ans

Question 111

The price of sugar is decreased by 10%. By what percent can a person increase the consumption so that there is no change in the expenditure?

A $\frac{100}{9}\%$

B $\frac{100}{11}\%$

C $\frac{109}{11}\%$

D 10%

Answer: A

Explanation:

Let the initial price of Sugar is Rs. x and initial monthly consumption of sugar is y kg. So, monthly expenditure towards use of sugar is $x \times y = \text{Rs. } xy$

When sugar price is decreased by 10% then price of sugar will become $0.9x$. To maintain expenditure constant, Rs. xy to be fixed. Hence consumption of sugar to be reduced by $1 - \frac{100}{110} = 9.1\%$ or $\frac{10}{11}\%$ Ans.

Question 112

The sides of a triangle are 8 cm, 15 cm, and 17 cm respectively. At each of its vertices, circles of radius 3.5 cm are drawn. What is the area of the triangle excluding the portion covered by the sectors of the circles ($\pi = \frac{22}{7}$)?

A 21.5 cm^2

B 47 cm^2

C 23.5 cm^2

D 40.75 cm^2

Answer: D

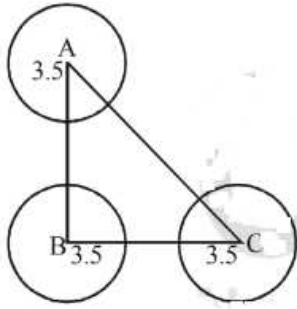
Explanation:

• As $(8)^2 + (15)^2 = 64 + 225 = 289 = (17)^2$

Hence, triangle is right angle triangle.

Sum of angle of any triangle is 180° .

Sum of area of all the three sectors



$$= \frac{180^\circ}{360} \times \pi \times (3.5)^2$$

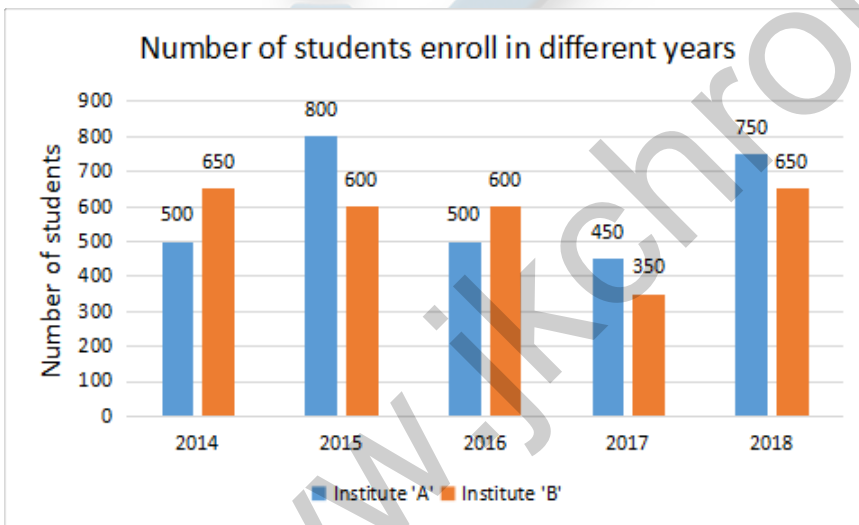
$$= \frac{1}{2} \times \frac{22}{7} \times 3.5 \times 3.5 = 19.25 \text{ cm}^2$$

And area of the triangle = $\frac{1}{2} \times AB \times BC$

$$= \frac{1}{2} \times 15 \times 8 = 60 \text{ cm}^2$$

So, remaining area = $60 - 19.25 = 40.75 \text{ cm}^2$

Question 113



In the given bar graph, the number of students enrolled in institute B in the year 2016 is what percentage of students enrolled in institute A in 2016?

A $\frac{250}{3} \%$

B 85 %

C 120 %

D $\frac{325}{6} \%$

Answer: C

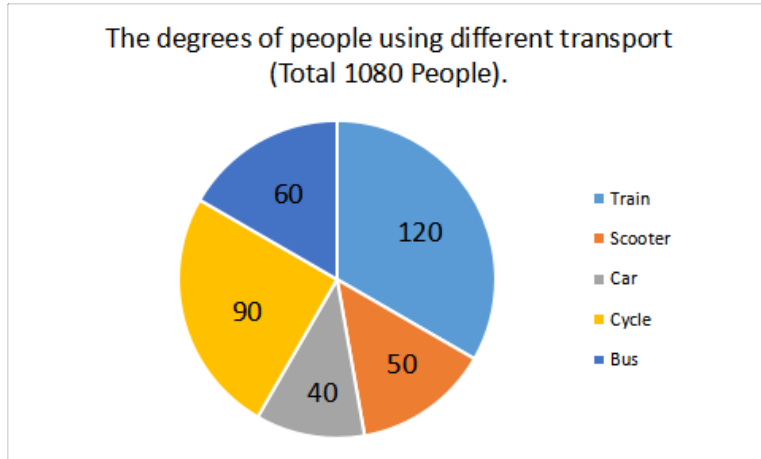
Explanation:

Number of students enrolled in B in 2016 = 600.

Number of students enrolled in A in 2016 = 500

$$\text{Required percent} = \frac{600}{500} \times 100 = 120\%$$

Question 114



In the given pie chart, what is the ratio of the number of people who use train or car to reach their office to the number of people who use other means of transport to reach their office.

- A 3 : 5
B 4 : 5
C 5 : 6
D 5 : 3

Answer: B

Explanation:

Total number of persons using train and car together

$$= \left(\frac{120}{360} + \frac{40}{360} \right) \times 1080$$

$$= \frac{160}{360} \times 1080 = 480$$

Total number of person using other mode of transport

$$= 1080 - 480 = 600$$

$$\text{Required ratio} = \frac{480}{600} = \frac{4}{5}$$

Question 115

A shopkeeper sold two articles for ₹ 9831 each. On one he gained 13% and on the other, he lost 13%. What is the overall percentage gain or loss?

- A 1.69% gain
B 6.5% gain
C 6.5% loss
D 1.69% loss

Answer: D

Explanation:

$$\text{Cost price of first article} = 9831 \times \frac{100}{(100+13)} = 8700$$

On which gain is 13%

$$\text{Cost price of second article} = 9831 \times \frac{100}{(100-13)} = 11300$$

$$\text{Total cost price of two article} = 8700 + 11300 = 20000$$

$$\text{Total selling price of two article} = 9831 + 9831 = 19662$$

$$\text{Overall loss} = 20000 - 19662 = 338$$

$$\text{Overall loss \%} = \frac{338}{20000} \times 100 = 1.69\% \text{ loss}$$

Question 116

The radius of a cylinder is increased by 120% and its height is decreased by 40%. What is the percentage increase in its volume?

- A 180.6%
- B 190.4%
- C 175.4%
- D 212.8%

Answer: B

Explanation:

Given : If the radius of a cylinder is increased by 120% and its height is decreased by 40%.

To find : What is the percentage change in the volume?

So let us :

Let r be the radius of cylinder is increased by 120%

$$\text{e.g., } 100 = \frac{11}{5}$$

The old radius is 5 and new radius is 11.

Let h be the height of cylinder is decreased by 40%

$$\text{e.g., } 100 = \frac{3}{5}$$

The old height is 5 and new height is 3.

The volume of old cylinder with $r = 5$ and $h = 5$

$$\text{volume} = \pi r^2 h$$

$$\frac{22}{7} \times 5^2 \times 5 = 392.85$$

The volume of new cylinder with $r = 11$ and $h = 3$

$$\text{volume} = \frac{22}{7} \times 11^2 \times 3 = 1140.85$$

Volume change is

$$1140.85 - 392.85 = 748$$

Percentage change is

$$\frac{748}{392.85} \times 100 =$$

190.4%

Question 117

The income of A is 24% more than the income of B. By what percent is the income of B less than the income of A?

A $\frac{600}{31}$ %

B $\frac{150}{7}$ %

C $\frac{600}{29}$ %

D $\frac{500}{31}$ %

Answer: A

Explanation:

Let b's income be 100, then

a's income = $100 + 24 = 124$

If a's income is 124 then, b's income is less by 24

If a's income is 1, then

a's income = $\frac{24}{124}$

a's income is $100 \times \frac{24}{124} \times 100 = \frac{600}{31}$ % *Ans*

Question 118

The successive discount of 25%, 20% and 10% is equivalent to a single discount of:

A 54%

B 46%

C 48%

D 44%

Answer: B

Explanation:

For successive discount we know that,

$$A+B - \frac{(A \times B)}{100}$$

accordingly,

1st 25% & 20%

$$25 + 20 - \left(\frac{25 \times 20}{100} \right) = 40\%$$

now 40% & 10%

$$40 + 10 - \left(\frac{40 \times 10}{100} \right) = 46\% \text{ Ans}$$

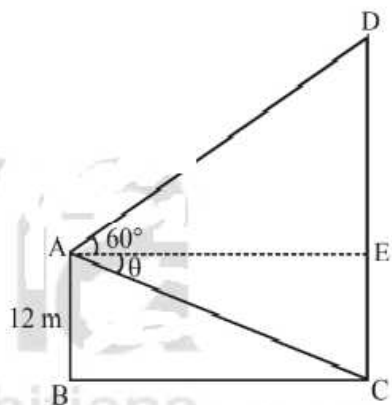
Question 119

From the top of a 12 m high building, the angle of elevation of the top of a tower is 60° and the angle of depression of the foot of the tower is θ , such that $\tan \theta = \frac{3}{4}$ What is the height of the tower ($\sqrt{3} = 1.73$) ?

- A 37.95 m
- B 39.68 m
- C 41.41 m
- D 36.22 m

Answer: B

Explanation:



Let AB is the height of the building and CD is the height of the tower.

Angle of elevation $\angle DAE = 60^\circ$

and angle of depression $\angle CAE = \theta$

$$\text{From } \triangle AEC, \tan \theta = \frac{CE}{AE} \Rightarrow \frac{3}{4} = \frac{12}{AE}$$

$$[\because CE = AB = 12]$$

$$\therefore AE = 16 \text{ m}$$

$$\text{Now, in } \triangle AED, \tan 60^\circ = \frac{DE}{AE}$$

$$\text{Height of the tower } CD = 12 + 27.68 = 39.68 \text{ m}$$

Question 120

$$5^5 + [2^2_3 - [3^3_4 (3^4_5 \div 9^1_2)]]$$

- A 7
- B $\frac{22}{3}$
- C $\frac{44}{7}$
- D $\frac{43}{6}$

Answer: A

Explanation:

$$5^5 + [2^2_3 - [3^3_4 (3^4_5 \div 9^1_2)]]$$

According to question,

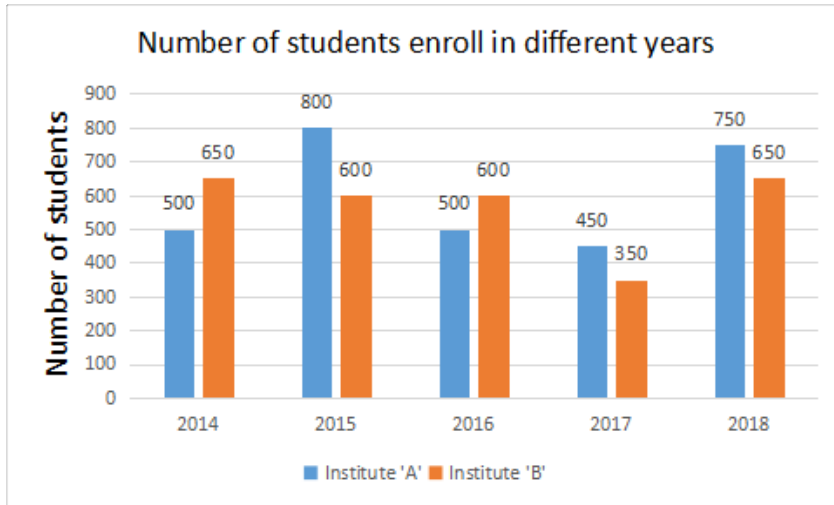
$$\frac{35}{6} + \left[\frac{8}{3} - \left[\frac{15}{4} \left(\frac{19}{5} \times \frac{2}{19} \right) \right] \right]$$

$$\frac{35}{6} + \left[\frac{8}{3} - \left[\frac{15}{4} \times \frac{2}{5} \right] \right]$$

$$\frac{35}{6} + \left[\frac{8}{3} - 2 \right]$$

$$\frac{35}{6} + \frac{7}{6} = 7 \text{ Ans}$$

Question 121



In the given bar graph, the percentage decrease in the number of students in Institute A in 2016 is what percent of students in 2015.

- A 39.5%
- B 37.5%
- C 40.5%
- D 35.5%

Answer: B

Explanation:

Number of student in institute A in 2015 = 800

Number of student in institute A in 2016 = 500

Percentage decrease in number

$$= \left(\frac{800 - 500}{800} \right) \times 100 = 37.5\%$$

Question 122

The average of 18 numbers is 52. The average of the first 8 numbers is 62 and the average of the next 7 numbers is 45. If the 16th number is 6 less than the 17th number and the 17th number is one more than the 18th number. then what is the average of the 16th and 18th numbers ?

- A 39.5
- B 40.5
- C 40
- D 39

Answer: B

Explanation:

sum of 16 no. $18 \times 52 = 936$

sum of frst 7 no. $8 \times 62 = 496$

sum of next 6 no. $7 \times 45 = 315$

remaining sum $936 - (496 + 315) = 125$

∴ 18th+17th+16th = 125

ATQ

let 16th no. = $x-6$

therefore 17th = $x-1$

and 18th = x

now, $x+x+1+x-6 = 125$

$3x-5 = 125$

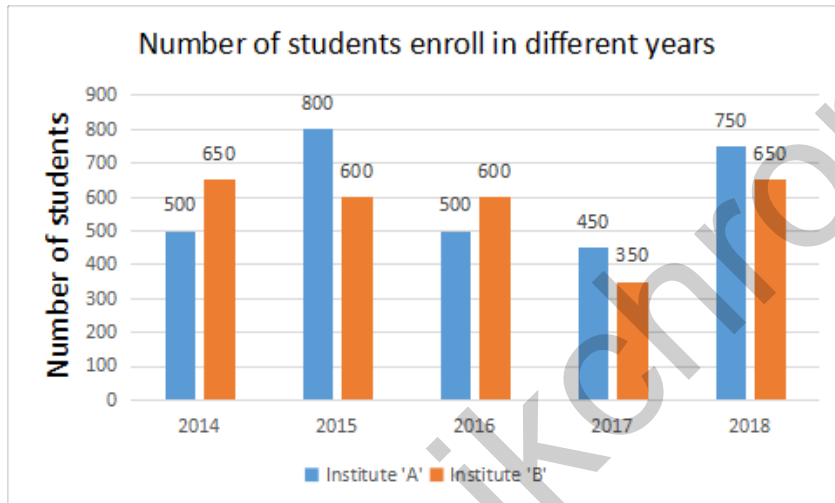
$3x = 130$

16th no. = 38, 17th no. = 44, 18th no. = 43

average of 16th and 18th

average = 40.5 Ans

Question 123



In the given bar graph, what is the ratio of the total number of students from 2016 to 2018 in institute A to the total number of students from 2016 to 2018 in institute B.

A 21 : 23

B 19 : 20

C 20 : 19

D 23 : 21

Answer: C

Explanation:

According to question,

total number of students from 2016 to 2018 in institute A = $750+450+500 = 1700$

total number of students from 2016 to 2018 in institute B = $600+650+350 = 1600$

so ratio $\frac{1700}{1600} = \frac{17}{16}$ Ans

Question 124

One side of a rhombus is 13 cm and one of its diagonals is 24 cm. What is the area of the rhombus?

- A 120 cm^2
- B 130 cm^2
- C 156 cm^2
- D 312 cm^2

Answer: A

Explanation:

So first we should divide the diagonal

now a $\triangle ABC$

the angle is 90°

now by Pythagoras theorem

$$(AC)^2 = (AB)^2 + (CA)^2$$

now we have AC as 13cm

, AB 12

so that

$$(13)^2 = (12)^2 + (CA)^2$$

$$169 = 144 + (CA)^2$$

$$(CA)^2 = 169 - 144$$

$$(CA)^2 = 25$$

$$CA = 5 \text{ cm}$$

so another diagonal $CA \times 2$

$$5 \times 2$$

$$10 \text{ cm}$$

so Area $\frac{1}{2} \times 10 \times 24$

$$120 \text{ cm}^2$$

Question 125

The value of $3\frac{1}{5} - [2\frac{1}{2} - (6 - (\frac{5}{6} - (\frac{2}{5} + \frac{3}{10} - \frac{4}{15})))]$ is:

- A $\frac{6}{5}$
- B $\frac{11}{10}$
- C $\frac{9}{10}$
- D $\frac{13}{5}$

Answer: B

Explanation:

$\frac{16}{5} - [2\frac{1}{2} - (\frac{5}{6} - (\frac{2}{5} + \frac{3}{10} - \frac{4}{15}))]$ According to question,

$$\frac{16}{5} - (2\frac{1}{2} - (\frac{5}{6} - \frac{7}{30})) =$$

11/10 Ans

Question 126

What is the sum of the digits of the least number, which when divided by 12, 16 and 54. leaves the same remainder 7 in each case, and is also completely divisible by 13?

- A 36
- B 9
- C 16
- D 27

Answer: C

Explanation:

L.C.M. of 12, 16 and 54.

$$12 = 2 \times 2 \times 3.$$

$$16 = 2 \times 2 \times 2 \times 2.$$

$$54 = 2 \times 3 \times 3 \times 3$$

$$\text{L.C.M.} = 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3 = 432$$

Remainder = 7.

$$\text{So, required number} = 432 + 7 = 439.$$

But this is not divisible by 13.

$$\text{so, next number is } 432 \times 2 + 7 = 871.$$

Number 871 is divisible by 13.

Hence, required number is 871.

$$\text{Sum of its digits} = 8 + 7 + 1 = 16.$$

Question 127

A shopkeeper marks his good at a price such that after giving a discount of 25%, the gains 20%. If the marked price of the article is ₹ 736, what is the cost price of the article?

- A ₹ 460
- B ₹ 450
- C ₹ 440
- D ₹ 455

Answer: A

Explanation:

$$\text{Selling price} = \text{Marked price} \times \left(\frac{100 - \text{discount}\%}{100} \right)$$

$$= 736 \times \left(\frac{100 - 25}{100} \right) = 552$$

$$\text{Now, cost price} = \text{Selling price} \times \frac{100}{(100 + \text{Profit}\%)}$$

$$= 552 \times \frac{100}{(100 + 20)} = ₹460$$

Question 128

6 cubes. each of edge 4 cm. are joined end to end. What is the total surface area of the resulting cuboid?

- A 208 cm^2
- B 496 cm^2
- C 576 cm^2
- D 416 cm^2

Answer: D

Explanation:

According to question,

length $4 \times 6 = 24$

height breadth 4

we know that

Surface Area of cuboid $2(b+bh+h)$

$$2(96+96+16)$$

$$2(208)$$

$$416 \text{ Ans}$$

Question 129

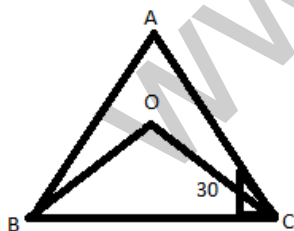
In $\triangle ABC$, $\angle C = 30^\circ$. If the bisectors of the angle B and angle C meet at a point O in the interior of the triangle, then $\angle BOC$ is equal to:

- A 90°
- B 120°
- C 75°
- D 105°

Answer: D

Explanation:

Given,



$$\angle c = 30^\circ$$

In triangle $\triangle ABC$, angle $\angle c = 30^\circ$ 60 degrees. and let angle B = $2b$ and angle A = $2c$.

Thus $30 + 2b + 2c = 180^\circ$, or

$$2b + 2c = 180 - 30 = 150, \text{ or}$$

$$b + c = 75 \text{ degrees.}$$

In triangle OBC, angle $\angle BOC + \text{angle } OBC + \text{angle } OCB = 180^\circ$.

But angle $\angle OCB + \text{angle } OBC = b + c = 75$, so

ang e BOC + ang e OBC + ang e OCB = 180° , or

ang e BOC + $30^\circ - \angle c = \frac{30^\circ}{2} = 15^\circ = 180^\circ$, therefore

ang e BOC = 105°

Question 130

The value of $\frac{\sin 30^\circ}{\cos 30^\circ} \cdot \frac{\cos 60^\circ}{\tan 45^\circ} \cdot \frac{\cot 45^\circ}{\sin 90^\circ}$ is equal to:

A $\frac{\sqrt{3}}{4}$

B $\frac{2\sqrt{3}}{3}$

C $\frac{\sqrt{3}}{2}$

D $\frac{3}{2}$

Answer: B

Explanation:

we know that,

$$\sin 30^\circ = \frac{1}{2}, \cos 60^\circ = \frac{1}{2}, \cot 45^\circ = 1, \cos 30^\circ = \frac{\sqrt{3}}{2}, \sin 90^\circ = 1, \tan 45^\circ = 1,$$

putting values into equation we get,

$$\left\{ \frac{1}{2} \cdot \frac{1}{2} \cdot 1^2 \right\} \cdot \frac{1}{\frac{\sqrt{3}}{2} \cdot 1 \cdot 1} = \frac{2\sqrt{3}}{3} \text{ ans}$$

Question 131

The efficiency of A, B and C are in the ratio 5 : 6 : 9. Working together, they can complete a work in 18 days. In how many days can B alone complete 25% of that work?

A 18

B 10

C 16

D 15

Answer: D

Explanation:

ratio of efficiency A:B:C = 5:6:9

$$\text{ratio of time taken A,B and C} = \frac{90}{5} : \frac{90}{6} : \frac{90}{9}$$

$$18:15:10$$

Now from question

$$\frac{x}{15} + \frac{x}{10} + \frac{x}{10} = \frac{1}{18}$$

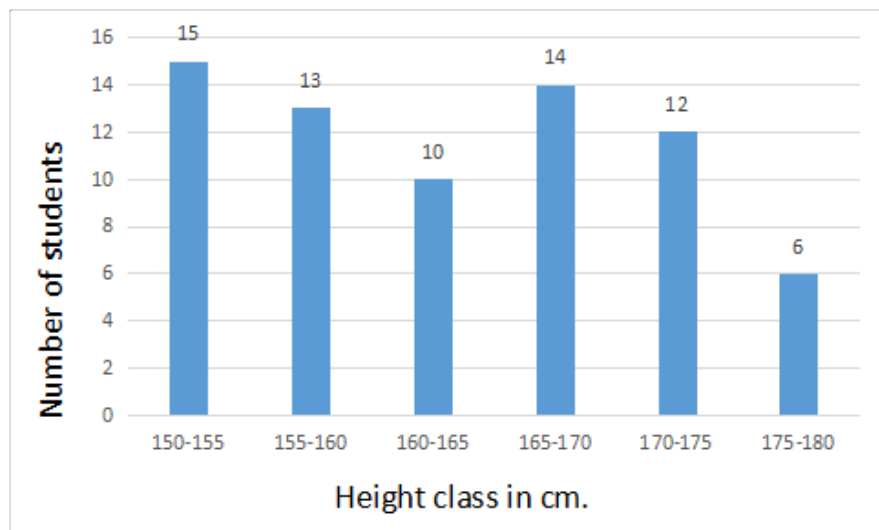
$$\frac{x(5+6+9)}{90} = \frac{1}{18}$$

$$x = 4$$

time taken by B to finish the work = $\frac{15}{x} = 15 \times 4 = 60 \text{ days}$

time taken by B to finish 25% the work = $\frac{(60 \times 25)}{100} = 15 \text{ days}$

Question 132

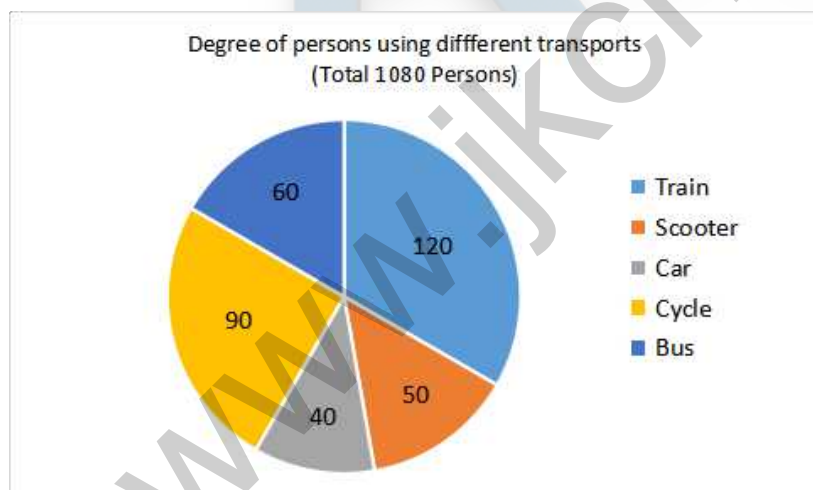


In the given histogram, what is the percentage of students whose height is in the class interval 165 - 170?

- A 18%
- B 25%
- C 20%
- D 15%

Answer: C

Question 133



In the given pie-chart, the number of persons using a car is what percentage of persons using a scooter?

- A 75%
- B 50%
- C 80%
- D 60%

Answer: C

Question 134

ABCD is a cyclic quadrilateral such that AB is the diameter of the circle circumscribing it and $\angle ADC = 145^\circ$. What is the measure of $\angle BAC$?

- A 50°
- B 35°
- C 55°
- D 40°

Answer: C

Question 135

36 persons working 8 hours a day can do 3 units of work in 12 days. How many persons are required to do 5 units of that work in 16 days, if they work for 6 hours a day?

- A 60
- B 55
- C 45
- D 50

Answer: A

Question 136

If a train runs with the speed of 48 km/h, it reaches its destination late by 12 minutes. However, if its speed is 64 km/h it is late by 3 minutes only. The right time for the train to cover its journey (in minutes) is:

- A 24
- B 22
- C 18
- D 20

Answer: A

Question 137

If $\tan 3x = \cot(30^\circ + 2x)$, then what is the value of x ?

- A 18°
- B 12°
- C 10°
- D 15°

Answer: B

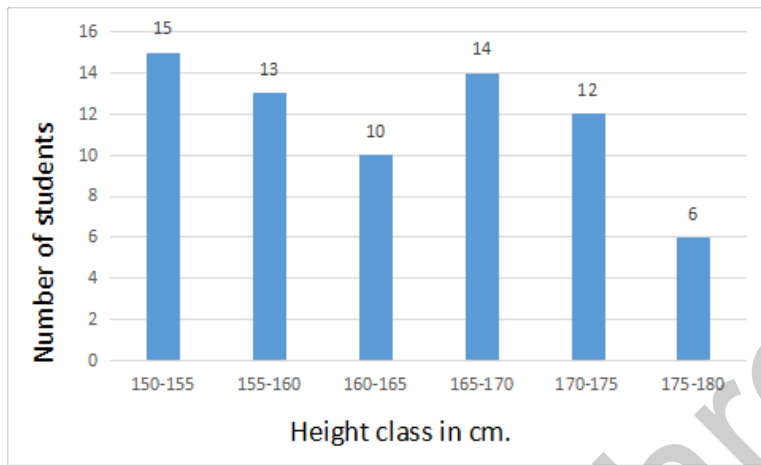
Question 138

In a class of 45 students. 40% are girls and the remaining are boys. The average marks of the girls is 64 and that of the boys is 60. What is the average marks of the whole class?

- A 62.4
- B 61.6
- C 62.9
- D 61.8

Answer: B

Question 139



In the given histogram, which class is the median class?

- A 150 - 155
- B 165 - 175
- C 155 - 160
- D 160 - 165

Answer: D

Question 140

A boat can go 30 km downstream and 24 km upstream in 2 hours 27 minutes. Also, it can go 10 km downstream and 4 km upstream in 37 minutes. What is the speed of the boat upstream (in km/hr)?

- A 18
- B 20
- C 22
- D 24

Answer: B

Question 141

If $(2x + 3)^3 + (x - 8)^3 + (x + 13)^3 = (2x + 3)(3x - 24)(x + 13)$, then what is the value of x ?

- A -2.5
- B -2
- C -1
- D -1.5

Answer: B

Question 142

If the seven digit number $74x29y6$ is divisible by 72, then what will be the value of $(2x + 3y)$?

- A 16
- B 20
- C 19
- D 21

Answer: C

Question 143

If $x - \frac{1}{x} = 6$, then $x^3 - \frac{1}{x^3}$ is equal to:

- A 176
- B 234
- C 216
- D 198

Answer: B

Question 144

In an examination, 48% of candidates passed in science and 56% failed in mathematics. If 32% failed in both subjects, then what percent passed in both subjects?

- A 28%
- B 22%
- C 24%
- D 32%

Answer: C

Question 145

PA and PB are two tangents from a point P outside a circle with centre O. If A and B are points on the circle such that $\angle APB = 80^\circ$, then $\angle OAB$ is equal to:

- A 50°
- B 40°
- C 55°
- D 45°

Answer: B

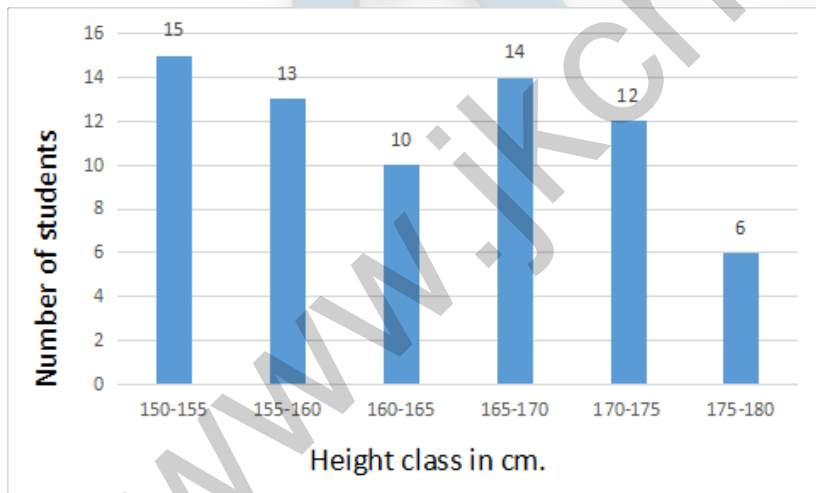
Question 146

$\frac{5.75 \times 5.75 \times 5.75}{57.5 \times 57.5}$ $\frac{3.25 \times 3.25 \times 3.25}{57.5 \times 32.5}$ is equal to:

- A 0.0009
- B 0.009
- C 0.9
- D 0.09

Answer: D

Question 147



In the given histogram, the number of students whose height is in the class interval 175 - 180 is what percent less than the number of students whose height is in the class interval 160 - 165 ?

- A $\frac{200}{3} \%$
- B 40 %
- C $\frac{50}{3} \%$
- D 60 %

Answer: B

Question 148

What is the ratio of the mean proportional between 8.1 and 3.6 and the third proportional of 2 and 3?

- A 6 : 5
- B 4 : 5
- C 5 : 6
- D 5 : 4

Answer: A

Question 149

A sphere of radius 5 cm is melted and recast into spheres of radius 2 cm each. How many such spheres can be made?

- A 16
- B 15
- C 17
- D 18

Answer: B

Question 150

A, B and C started a business by investing ₹ 55,000, ₹ 65,000 and ₹ 75,000 respectively. A is a working partner and gets 20% of the profit as working allowance and remaining is distributed in the proportion of their investment. If the money received by C is ₹27,000 what is the total profit?

- A ₹ 70,200
- B ₹ 87,750
- C ₹ 76,850
- D ₹ 85,500

Answer: B

English

Instructions

For the following questions answer them in a short and simple way.

Question 151

Select the synonym of the given word.

ECSTASY

- A danger
- B grief

C happiness

D fear

Answer: C

Question 152

Select the most appropriate word to fill in the blank.

Mr. Shanna may be late but I am sure Mr. Kapoor _____ be.

A would

B can't

C should

D won't

Answer: D

Question 153

Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No improvement.

It is not wise relying to anybody too much.

A to rely on anybody

B to rely n anybody

C No improvement

D relying at anybody

Answer: A

Question 154

Select the antonym of the given word.

ASSEMBLE

A resemble

B gather

C disperse

D create

Answer: C

Question 155

Select the antonym of the given word.

MOROSE

- A s ck
- B cheerfu
- C taste ess
- D g oomy

Answer: B

Question 156

Select the most appropriate meaning of the underlined idiom in the given sentence.
If you go for this training, it will be beneficial to you in the long run.

- A eventua y
- B regu ar y
- C mmed ate y
- D nterm ttent y

Answer: A

Question 157

Select the word, which means the same as the youp of words given.
a gigantic statue

- A co umn
- B co ossus
- C c tade
- D cast e

Answer: B

Question 158

Select the antonym of the guy en word.
HOSTILE

- A forcefu
- B aggress ve
- C rebe
- D fr end y

Answer: D

Instructions

Read the fo ow ng passage and answer the quest ons g ven after t.

The ocean w not ook the same co or n the future. Essent a y, c mate change w make the b ues of the ocean b uer and the greens greener. Sc ent sts from MIT, Boston, f gured th s out by creat ng a g oba mode that s mu ates the growth of a t ny creature that ves n

the oceans and affects the colour we see. The research was published in the journal Nature Communications.

The ocean looks blue or green to us because of a combination of how sunlight interacts with water molecules and with whatever lives in that water.

The molecules in water absorb a bit of the blue part of the spectrum of sunlight, and the water reflects that blue colour back. That's the colour we see.

The water looks greener when it has more phytoplankton, tiny microscopic organisms that, like plants, can use chlorophyll to capture most of the blue portions of the spectrum of sunlight. They then use photosynthesis to create the chemical energy they need to live. When there are more of these creatures in the water absorbing sunlight, they make the water look greener. Conversely, if there are fewer phytoplankton, the water looks bluer.

The creatures' growth is dependent on how much sunlight, carbon dioxide and nutrients are around. Climate change is altering the ocean currents, meaning there will be fewer nutrients for phytoplankton to feed on in some areas, so there will be a decline in their number in those regions.

Since the 1990s, satellites have taken regular measurements of how much chlorophyll is in the ocean. Those levels can change because of weather events or because of climate change.

The study predicts that the blues will intensify, most likely in subtropical regions where phytoplankton will decrease. These are areas near the equator like Bermuda and the Bahamas that are already quite low in phytoplankton.

Regions where there are a lot of nutrients, like in the Southern Ocean or parts of the North Atlantic, will see even faster-growing phytoplankton because those waters are warming with climate change. Those waters will look greener.

Climate change will bring a colour change to half of the world's oceans by the end of the century, the study says. That's bad on several levels: For one, phytoplankton remove about as much carbon dioxide from the atmosphere as humans and help regulate our climate, research shows.

They are also key to other animals' survival. Phytoplankton are at the base, and if the base changes, it endangers everything else on the food web, going far enough to the polar bears or tuna or just about anything that you want to eat or love to see in pictures, said Stephanie Dutkiewicz, a principal research scientist at MIT.

Question 159

The passage is mainly about:

- A Why ocean water looks blue.
- B How the growth of phytoplankton will impact the food web.
- C The growth of phytoplankton in the ocean.
- D The change of the ocean colour due to climate change.

Answer: D

Question 160

The colour of the ocean depends on:

- A the growth of phytoplankton in the ocean.
- B the sunlight's absorption by the sea organisms.
- C the sunlight's interaction with the water molecules and sea organisms.
- D water molecules absorbing the blue of the sunlight.

Answer: C

Question 161

In which areas will the ocean look bluer?

- A Areas near equator
- B Southern ocean
- C Areas near poles
- D North Atlantic ocean

Answer: A

Question 162

Where do phytoplankton grow profusely?

- A Where the ocean currents are cold
- B Where the sun rays are absorbed by ocean water
- C Where the ocean waters are hot as at equator
- D Where there are a lot of nutrients in the ocean water

Answer: D

Question 163

Which statement is not true according to the passage?

- A By the end of 21st century the colour of ocean waters will change.
- B Phytoplankton has a key role in the survival of other animals.
- C More blue colour in the ocean will affect the climate change.
- D In subtropical regions phytoplankton will decrease.

Answer: C

Instructions

For the following questions answer them individually.

Question 164

Select the most appropriate meaning of the underlined idiom in the given sentence.

Getting the Fulbright Scholarship at this young age is a feather in his cap.

- A Something he can show off about
- B a sign of his intelligence
- C an award not to be given up
- D an accomplishment to be proud of

Answer: D

Question 165

Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No improvement.

You must go to Bhopal if you are liking it or not.

- A whether you have ked t
- B whether you ke t
- C f you ke t
- D No mprovement.

Answer: B

Question 166

Select the wrongly spelt word.

- A droughth
- B dr bb e
- C dreadfu
- D dreamy

Answer: A

Question 167

Select the wrongly spelt word.

- A b zzard
- B b tter
- C b zzare
- D bew tched

Answer: C

Question 168

**Select the word, which means the same as the group of words given.
to shorten a piece of writing without losing the sense**

- A abr dge
- B ed t
- C a ege
- D crop

Answer: A

Question 169

**Select the synonym of the given word.
COMMENDABLE**

- A courteous

- B gratefu
- C pra seworthy
- D sat sfy ng

Answer: C

Question 170

Select the wrongly spelt word.

- A beneath
- B ben gn
- C benef t a
- D benevo ent

Answer: C

Instructions

In the fo ow ng passage some words have been de eted. F n the b anks w th the he p of the a ternat ves g ven. Se ect the most approp rate opt on for each number.

Passage:

Lord Baden Powe , the founder of Scout ng was h mse f an army scout. Dur ng (1) war n South Af ca, when so d ers (2) not eas y ava ab e, he se ected a few boys (3) worked as messengers and d d a wonderfu (4) as tt e scouts. S nce then, the Scout Movement has (5) throughout the wor d.

Question 171

Select the most appropriate option to fill in blank No.1.

- A a
- B an
- C any
- D one

Answer: A

Question 172

Select the most appropriate option to fill in blank No.2.

- A have
- B had
- C were
- D are

Answer: C

Question 173

Select the most appropriate option to fill in blank No.3.

- A wh ch
- B who
- C whose
- D whom

Answer: B

Question 174

Select the most appropriate option to fill in blank No.4.

- A post
- B th ng
- C job
- D work

Answer: C

Question 175

Select the most appropriate option to fill in blank No.5.

- A spread
- B scattered
- C extended
- D stretched

Answer: A

Instructions

For the following questions answer them individually

Question 176

Select the word, which means the same as the group of words given.
a person who compiles dictionaries

- A cartographer
- B calligrapher
- C lexicographer
- D choreographer

Answer: C

Question 177

Select the wrongly spelt word.

- A groovey
- B groggy
- C gr tty
- D groom

Answer: A

Question 178

Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select No improvement.

He will pass the driving test if he tries hard enough.

- A No mprovement.
- B f he s try ng hard
- C f he had tr ed hard
- D f he tr ed hard

Answer: A

Question 179

Select the most appropriate meaning of the underlined idiom in the given sentence.

The cost of living has increased so much that many people find it difficult to make both ends meet.

- A buy expens ve gadgets
- B buy someth ng new
- C he p other peop e
- D earn enough to surv ve

Answer: D

Question 180

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

A place where coins are made

- A reserve
- B bank
- C m nt
- D exchange

Answer: C

Question 181

Select the synonym of the given word.

AFFLUENT

- A strong
- B joyous
- C wealthy
- D clever

Answer: C

Question 182

Select the antonym of the given word.

EXTRAVAGANT

- A deficient
- B resentful
- C wasteful
- D thrifty

Answer: D

Question 183

Identify the segment in the sentence, which contains the grammatical error.

If the car hadn't broken down we will be at the office now.

- A at the office
- B hadn't broken down
- C we will be
- D If the car

Answer: C

Question 184

Identify the segment in the sentence, which contains the grammatical error.

Neither Mohit nor Rohit were there at the shop when I went there.

- A Neither Mohit nor Rohit
- B were there
- C when
- D at the shop

Answer: B

Question 185

Select the word, which means the same as the group of words given.
a place where bees are kept

- A ap ary
- B aquar um
- C orchard
- D av ary

Answer: A

Question 186

Select the antonym of the given word.
BONDAGE

- A berty
- B s avery
- C wea th
- D affect on

Answer: A

Question 187

Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select **No improvement**.

The man who seen the accident to occur telephoned the police.

- A saw the acc dent occurred
- B had seen the acc dent occur
- C No mprovement.
- D saw the acc dent was occurr ng

Answer: B

Question 188

Select the synonym of the given word.
FEIGN

- A prefer
- B pretend
- C prepare

D pester

Answer: B

Question 189

Identify the segment in the sentence, which contains the grammatical error.
He spends good deal of money on eating out.

A of money

B good dea

C on eat ng out.

D He spends

Answer: B

Question 190

Select the most appropriate meaning of the underlined idiom in the given sentence.
Let's hope they will bury the hatchet and be friends again.

A take courage

B keep qu et

C make p ans c ever y

D forget past quarre s

Answer: D

Question 191

Select the wrongly spelt word.

A re g ous

B abor ous

C court ous

D myster ous

Answer: C

Question 192

Select the synonym of the git en word.
DAME

A fema e

B g r

C man

D ady

Answer: D

Question 193

Select the most appropriate word to fill in the blank.
The plant will die you look alter it.

A un ess

B otherw se

C f

D unt

Answer: A

Question 194

Select the most appropriate word to fill in the blank.
Next week I visiting my friend and staying with him for a day.

A ntend

B ntended

C ntend ng

D ntends

Answer: A

Question 195

Select the most appropriate word to fill in the blank.
His new job is connected developing software for teaching.

A from

B about

C by

D w th

Answer: D

Question 196

Select the most appropriate meaning of the underlined idiom in the given sentence.
I am fed up with his false promises.

A fur ous

B hopefu

C d sgusted

D pleased

Answer: C

Question 197

Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, select **No improvement**.

Did you do what I telling you to do yesterday.

A that I am te ng you

B what I have to d you

C what I to d you

D No mprovement.

Answer: C

Question 198

Identify the segment in the sentence, which contains the grammatical error.

He was surprised at me refiising his offer.

A h s offer.

B He was

C at me refus ng

D surpr sed

Answer: C

Question 199

Identify the segment in the sentence, which contains the grammatical error.

The landlady made me changing the design of the kitchen three times.

A made me

B the des gn

C of the k tchen

D chang ng

Answer: D

Question 200

Select the most appropriate word to fill in the blank.

The children had made a mess on the floor, so I asked Sana to clean up.

A ts

- B t
- C they
- D them

Answer: B





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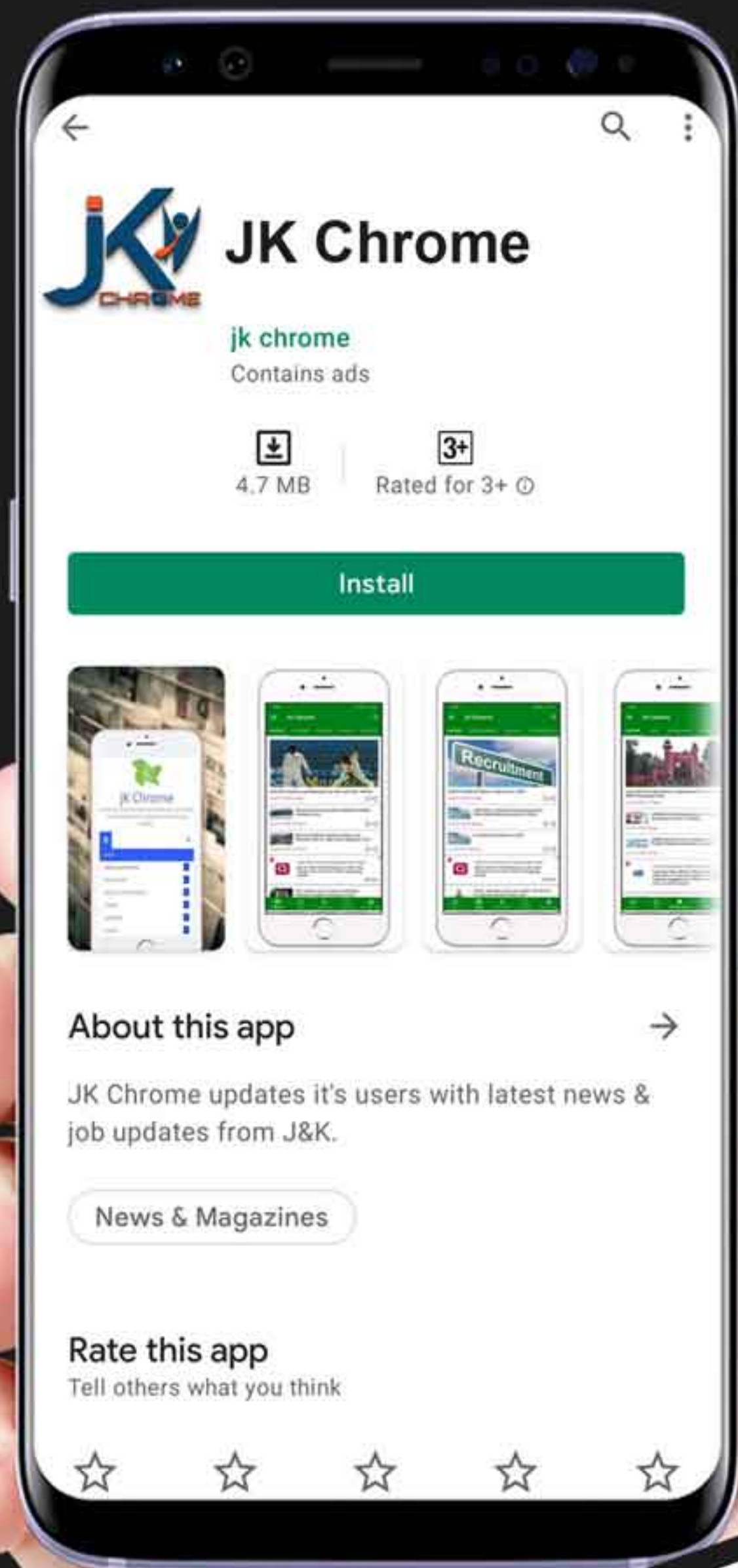
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