RPF SI 5th Jan 2019
Shift 1

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1. **The main objective of the industry base Memorandum Scheme is ___.**

A Encouraging entrepreneurship and promoting start-up

B Facilitating a relationship between future job seekers and employers

C **Promote ease of doing business**

D Setting up a network of technology and emerging centers

Solution

The main objective of the industry base Memorandum Scheme is promote ease of doing business

2. **Trans-Siberian Railway connects St Petersburg to ___.**

A Kaliningrad

B Volgograd

C Sochi

D Vladivostok

Solution

Trans-Siberian Railway connects St Petersburg to Vladivostok

3. **Mahmud Begda was a famous sultan of which famous empire?**

A Jaunpur

B Malwa

C **Gujarat**

D Bengal

Solution

Mahmud Begda was a famous sultan of Gujarat empire.

4. **Which statement is not correct with respect to the goods and services tax (GST)?**

A

Integrated GST will be levied on inter-state goods and services transactions.

B **The concept of declared goods of special importance was abated**

C States will get compensation for five years for loss of revenue

D GST will be collected by VAT method

Solution

The concept of declared goods of special importance was abated is not correct with respect to the goods and services tax (GST).

5. **What is the unit of kinetic visibility?**

A Candela

B **Poise**

C Watts

D Pascal

Solution

Poise is the unit of kinetic visibility

6. **Which of the following continents is also known by the name 'The Dark Continent'?**

A Australia

B **Africa**

C Europe

D Asia

Solution

Africa is also known by the name 'The Dark Continent'.

7. **What is the mineral deposited in the soil of the lower hills and valleys in the sand?**

A Load Deposit

B **Placeer Deposit**

C Wayne Deposit

D Layered Deposit

Solution

Placeer is the mineral deposited in the soil of the lower hills and valleys in the sand.

8. **Greenland falls under which of the following continents?**

A **North America**

B Asia

C Europe

D Antarctica

Solution

Greenland falls under North America

9. **How many days are organized for the modern Olympic Games?**

A **16 Days**

B 30 days

C 45 days

D 21 days

Solution

16 Days are organized for the modern Olympic Games

10. The ravines are generally found in which river basin of India?

A Periyar

B **Chambal**

C Kaveri

D VaiGi

Solution

The ravines are generally found in Chambal river basin.

11. **Which of the following is the rainiest place in the world?**

A Karup River

B Trunky

C Animeidi

D **Monsoon**

Solution

In monsoon season, rain will be the most.

12. **Who has been presided over the first three-member commission for determining the relationship between the Center and the State?**

A Veerappa Moily

B MM Punchhi

C P.V. Rajamannar

D **R S. Sarkaria**

Solution

R S. Sarkaria presided over the first three-member commission for determining the relationship between the Center and the State.

13. **The term "relay" is related to __**

A Throwing

B **Running**

C Fencing

D Weightlifting

Solution

The term relay is related to Running

14. **How many languages are currently approved in the Indian Constitution?**

A 21

B 24

C 26

D **22**

Solution

22 languages are currently approved in the Indian Constitution.

15. **Which of the following states celebrates Hornbill festival every year?**

A Manipur

B Nagaland

C Assam

D Sikkim

Solution

Nagaland celebrates Hornbill festival every year.

16. **In which article is the provision of setting up the Finance Commission in the form of a semijudicial body?**

A Article 3

B **Article 280**

C Article 101

D Article 279

Solution

In Article 280 there is the provision of setting up the Finance Commission in the form of a semijudicial body.

17. **Who is the Chairman of the Policy (NITI) Commission?**

A **Prime Minister**

B Finance Secretary

C Cabinet Secretary

D Finance Minister

Solution

Prime Minister is the Chairman of the Policy (NITI) Commission

18. **Who wrote the famous book work formula?**

A Kalidas

B Vasumitra

C Mahakashyap

D Vatsyaayan

Solution

Vatsyaayan wrote the famous book work formula.

19. **Who discovered the X-ray?**

A Johann Wilhelm Ritter

B **Wilhelm Conrad Röntgen**

C Antoine Henry Bekural

D Isaac Newton

Solution

Wilhelm Conrad Röntgen discovered the X-ray

20. **Converting a large punishment to light sentence is called-**

A **Shortening**

B Forgive

C Expiration

D Punishment

Solution

Converting a large punishment to light sentence is called Shortening

21. **What is the specialty of making carbon covalent bond with carbon atoms through carbon?**

A Electrification

B Ionization

C Electrolysis

D **Chaining**

Solution

Chaining is the process of making carbon covalent bond with carbon atoms through carbon.

22. When was the first inter-state council formed?

A 1993

B **1990**

C 1991

D 1997

Solution

The first inter-state council formed in 1990.

23. In which of the following states are the Lepakshi Temple situated?

A Kerala

B Karnataka

C **Andhra Pradesh**

D Tamil Nadu

Solution

The Lepakshi Temple situated in Andhra Pradesh.

24. Which of the following options is not a personal game?

A Lambuid

B Sprint

C Marathon

D Kho-Kho

Solution

Kho-Kho is not a personal game.

25. **Who gave the slogan "Jai Jawan Jay Kisan"?**

A Sardar Vallabh Bhai Patel

B Indira Gandhi

C Lalhar Lal Nehru

D **Lal Bahadur Shastri**

Solution

Lal Bahadur Shastri gave the slogan Jai Jawan Jay Kisan.

26. **In which financial year India signed the Extended Fund Facility Agreement with the IMF?**

A 2011-12

B 1981-82

C 1991-92

D 2001-02

Solution

India signed the Extended Fund Facility Agreement with the IMF in 1981-82

27. **An event in which hot sea waves flowing from the Peruvian coastal region is called -.**

A Indian Ocean Dipole

B **El Nino**

C Madden-Julian Oscillation

D La Nina

Solution

An event in which hot sea waves flowing from the Peruvian coastal region is called El Nino

28. **Khashaba Jadhav, a famous player, belongs to which game?**

A Shooting

B **Wrestling**

C Hockey

D Weightlifting

Solution

Khashaba Jadhav, a famous player, belongs to Wrestling.

29. **The virtual force generated due to the rotation of the Earth is called-**

A Kinetic Force

B **Coriolis force**

C Pressure Prevalence

D Gravitational Force

Solution

The virtual force generated due to the rotation of the Earth is called Coriolis force

30. **What is the name of antibiotic containing chlorine which is produced by soil containing microorganisms and is effective for the treatment of typhoid fever?**

A Chloroquin

B **Chloramphennik**

C Chlorogen

D Chloroethanol

Solution

Chloramphennik is the antibiotic containing chlorine which is produced by soil containing microorganisms and is effective for the treatment of typhoid fever.

31. **What is the international governing body associated with table tennis?**

A AILA

B **ITTF**

C FITT

D APTT

Solution

ITTF is the international governing body associated with table tennis.

32. **The lighthouse of the Mediterranean Sea is-**

A Rainier

B **Stromboli**

C Etna

D Sicily

Solution

The lighthouse of the Mediterranean Sea is Stromboli.

33. **Who has the power to make any provision in relation to the acquisition and termination of citizenship?**

A President

B Prime Minister

C Cabinet

D **Parliament**

Solution

Parliament has the power to make any provision in relation to the acquisition and termination of citizenship

34. **The administrative reforms commission was initially chaired by _.**

A **Morar G Desai**

B Veerappa Moily

C Hanumantihya

D P.V. RajMannar

Solution

The administrative reforms commission was initially chaired by Morar G Desai

35. **What is the phenomenon of organisms in which female genome develops to form new creatures without fertilization?**

A Genome

B Parthenogenesis

C Monogamy

D Singemi

Solution

Parthenogenesis is the phenomenon of organisms in which female genome develops to form new creatures without fertilization.

36. **What is the speed of objects relative to the straight line?**

A Uniform Speed

B Transverse Speed

C Displacement speed

D Straight Linear Speed

Solution

Straight Linear Speed is the speed of objects relative to the straight line

37. **Who is the Chairman of the National Development Council?**

A **Prime Minister**

B President

C Finance Minister

D Union Home Minister

Solution

Prime Minister is the Chairman of the National Development Council

38. **The towns of Harappan civilization were placed in ___ pattern.**

A Circular Grid

B Rectangular grid

C Square Grid

D Radial Grid

Solution

The towns of Harappan civilization were placed in Rectangular grid pattern.

39. **According to the Policy (NITI) Commission, how long has the Indian government made a plan to double the income of the farmers?**

A **2022**

B 2025

C 2024

D 2020

Solution

According to the Policy (NITI) Commission, till 2022, the Indian government made a plan to double the income of the farmers

40. Which instrument is measured by the transfer of heat?

A Hydrometer

B Manomer

C **Calorimeter**

D Galvanometer

Solution

Calorimeter is measured by the transfer of heat

41. **Under which article can Parliament set a condition for employment within the state or union territory?**

A Article 26

B Article 15

C Article 19

D **Article 16**

Solution

Under Article 16 Parliament can set a condition for employment within the state or union territory.

42. The word 'Mahayana' is related to what religion?

A Jain

B **Buddhist**

C Shaiv

D Sikh

Solution

The word 'Mahayana' is related to Buddhist.

43. **By what name is the maintenance of bee hive?**

A **Epiculture**

B Aviculture

C Horticulture

D Agriculture

Solution

Epiculture is the name for maintenance of bee hive

44. The ancient Harappan town of Lothal is situated in which state?

A Uttar Pradesh

B Punjab

C **Gujarat**

D Rajasthan

Solution

The ancient Harappan town of Lothal is situated in Gujarat.

45. **Hindola castle and ship mansion are related to which regional architecture style?**

A **Mandu Area**

B Gujarat Zone

C Area of Kashmir

D Bengal Area

Solution

Hindola castle and ship mansion are related to Mandu Area.

46. **What is the common name of Peripleneta americana?**

A American Frog

B **American Cockroaches**

C American FlatWarm

D American earthquake

Solution

American Cockroaches is the common name of Peripleneta americana.

47. **President's Ordinance can be issued**

A **As per Parliamentary Act on provisions with similar boundaries**

B On the specially mentioned provisions of the President

C On any provision of the Constitution

D None of these

Solution

President's Ordinance can be issued as per Parliamentary Act on provisions with similar boundaries

48. **Who established the Chishti sect in India?**

A **Moinuddin Chishti**

B Khwaja Nizamuddin Auliya

C Khwaja Saleem Chishti

D Khwaja Qutbuddin Bakhtiar Kaki

Solution

Moinuddin Chishti established the Chishti sect in India.

49. Which of these is not a major tea growing area of India?

A Assam Hills

B Darjeeling Hills

C **Kashmir Valley**

D Nilgiris Hills

Solution

Kashmir Valley is not a major tea growing area of India.

50. In sports, how many competitions are there in Decathlon?

A 3

B 8

C **10**

D 5

Solution

10 competitions are there in Decathlon.

In this question, a passage and a statement related to it have been given. Read carefully the verse and review the statement based on it.

According to the National Monetary Authority (NMA), the Pune Municipal Corporation (PMC) and the Maharashtra Metro Rail Corporation (Maharashtra-Metro), decided to change the alignment of the Metro project on Ahmednagar Road to protect the Aga Khan Palace. So now the cost of the project will increase to Rs 50 crore for civil works, and the length of the corridor will increase to 900 meters. Metro officials Atul Gadgil and Prakash Waghmare informed the media on Friday about the decision. "There will be some changes in the Metro corridor near Aga Khan Palace and the length of the route will now increase to 900 meters," the Metro official confirmed this. PMC is yet to give final approval for the planned route.

51. **Statement. The construction of the Metro project will be around 50 crore rupees. Select one of the following options.**
A. The statement is definitely true.
B. The statement is probably true.
C. Statement can not be determined
D. Statement is definitely wrong

A D

B A

C B

D C

Solution

From the given information, the statement is wrong.

52. **Change the question mark with the option that follows the logic applied to the first pair.**

Plant: Seed :: Flower: ??

A Beautiful

B **Bud**

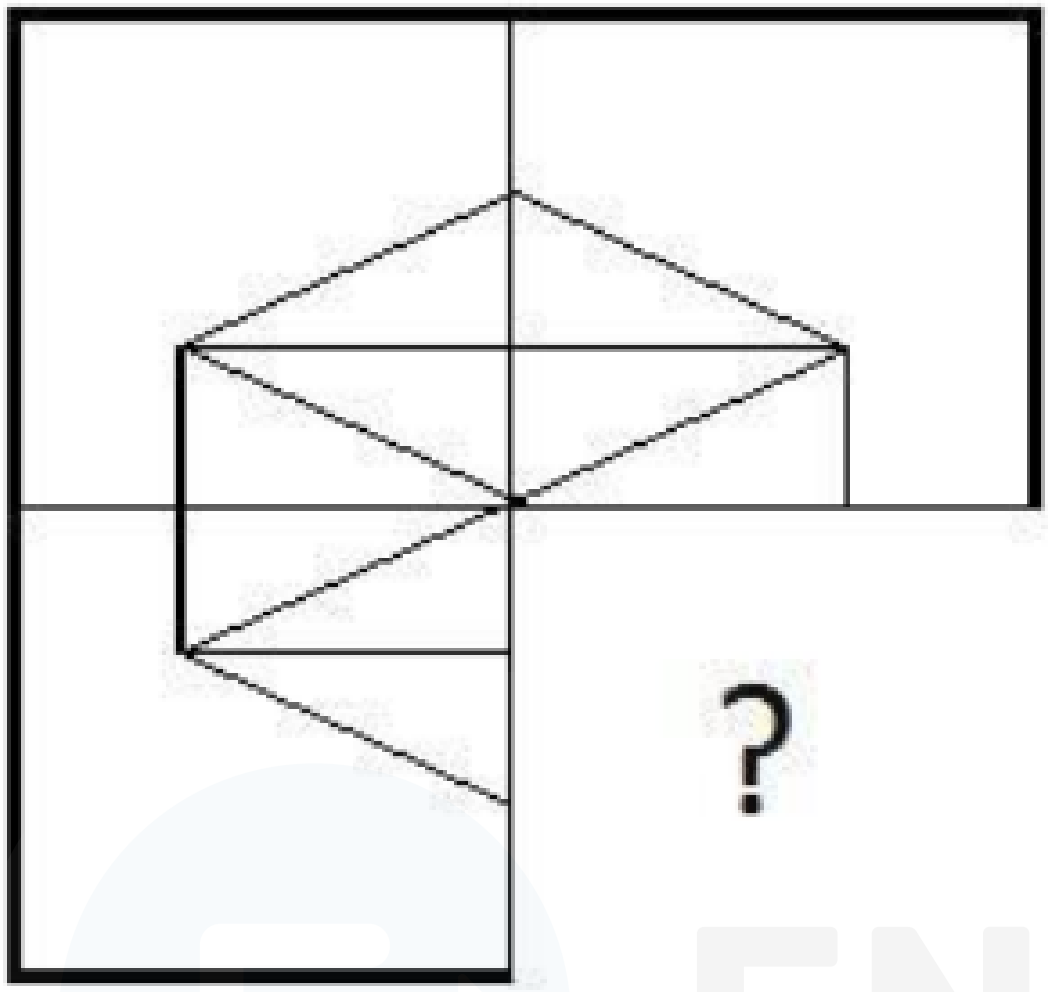
C Green

D Taste

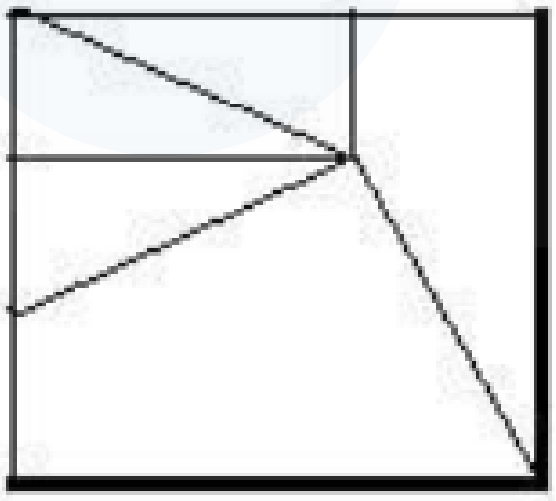
Solution

Flower is related to Bud as plant is related to seed.

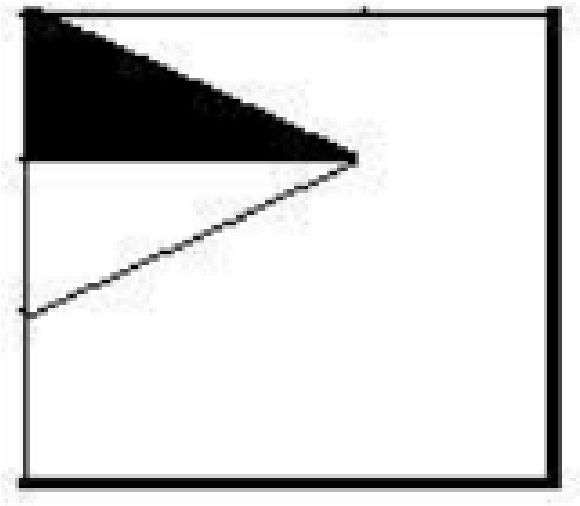
53. **Select the correct option that will meet the image pattern of the given image.**



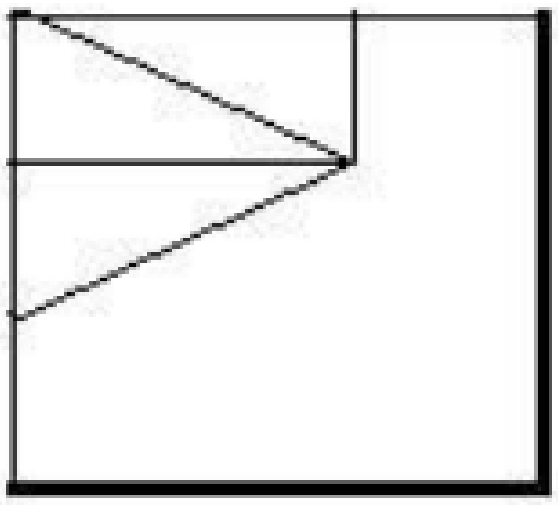
A



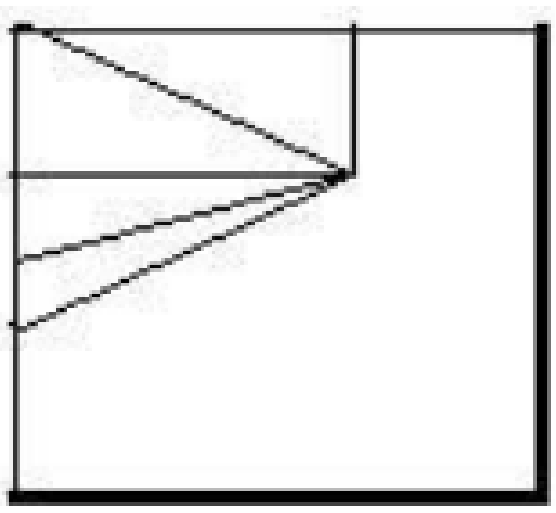
B



C



D



Solution

As per the given pattern option C is correct.

54. Select the next number in the series. 15, 20, 40, 45, 90,?

A 93

B 92

C 94

D **95**

Solution

The pattern of the given number series is,

$15 + 5 = 20$
$20 \times 2 = 40$
$40 + 5 = 45$
$45 \times 2 = 90$
$90 + 5 = 95$

55. **Three statements in this question and three related conclusions have been given to them, assuming that the statements given in the statements to be true are to be considered together on both the findings and to make sure that the information given in the statements is beyond any reasonable doubt Which conclusion is rational?**

Statement: There are some wheat, tea. There are some tea, rice, all rice and curry.

Conclusion:

i) There are some curry tea.

ii) There are some curries.

iii) All rice is tea.

A **Only i) is logical**

B Only ii) and iii) is logical

C Only i) and iii) Logical

D Either ii) or iii) is logical

Solution

As per the given starement and conclusions, only conclusion i is logical.

56. **Carefully read the given information and answer the given questions.**

The 8 people sitting on the outside of the M, N, O, P, Q, R, S and T sculptors are sitting outside (not necessarily in the same order) in such a way that there is a uniform distance between each of them. There are 5 men and 3 women. No two women are sitting together.

i) M, which is a man, is sitting opposite S.

ii) T and N are neighbors.

iii) N is sitting on the third place from the right of O, which is a woman.

iv) M is neither Neighbor of Ne, nor is Ne N is neighbor.

v) A person is sitting between S and N.

vi) P is not a neighbor of M but sitting in front of R.

Which of the following options is a pair of men?

A RO

B TS

C NP

D **QM**

Solution

As per the given information, Q and M are men

57. **Select the next number in the series.**

52, 53, 57, 66, 82,?

A 109

B 114

C **107**

D 112

Solution

The pattern of the given number series is,

$52 + 1^2 = 53$

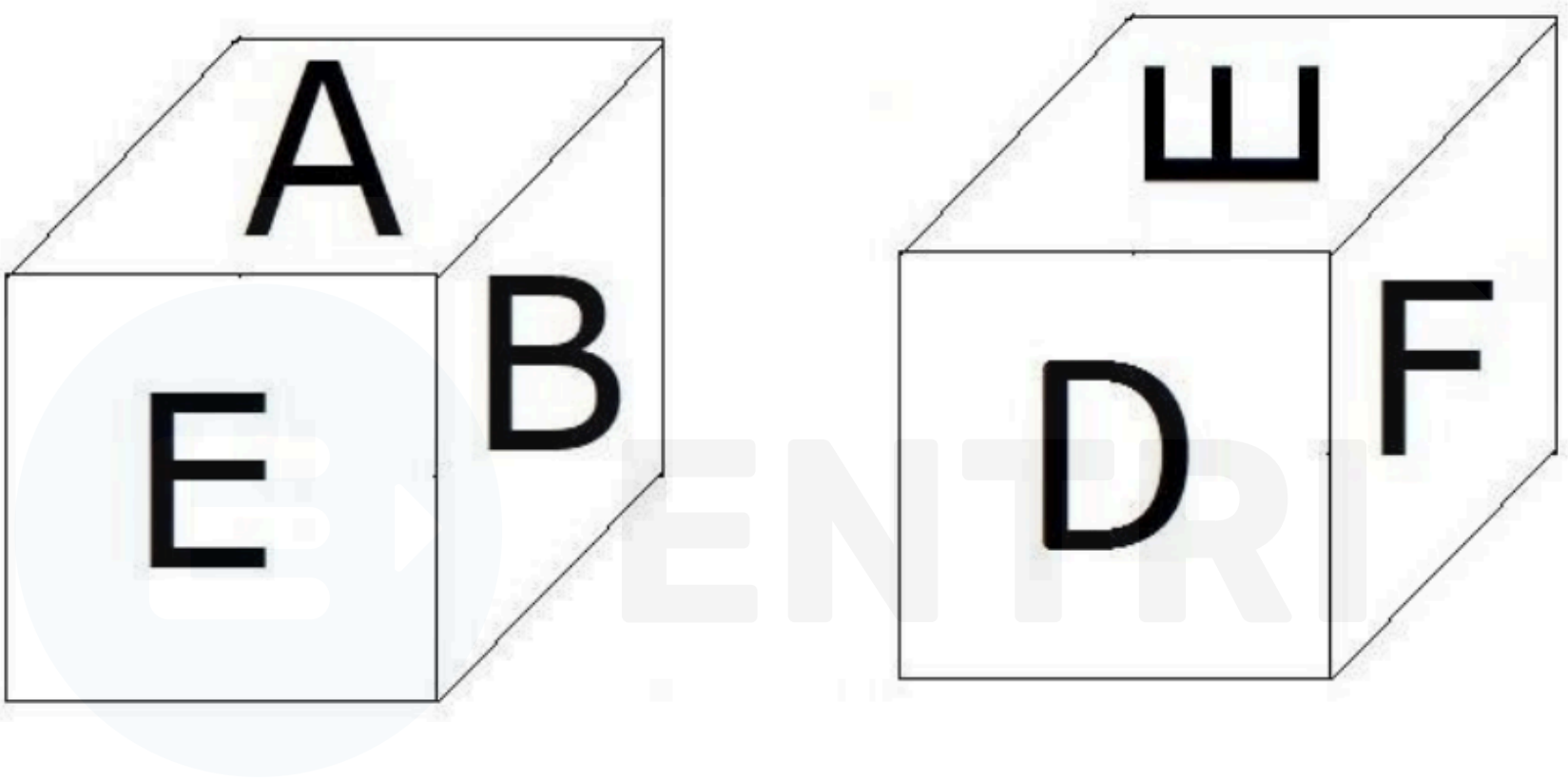
$53 + 2^2 = 57$

$57 + 3^2 = 66$

$66 + 4^2 = 82$

$82 + 5^2 = 107$

58. **According to the given picture, 6 letters A, B, C, D, E and F are marked on each surface of the dice. Which letter is marked on the surface opposite the surface on which the letter E is printed.**



A C

B A

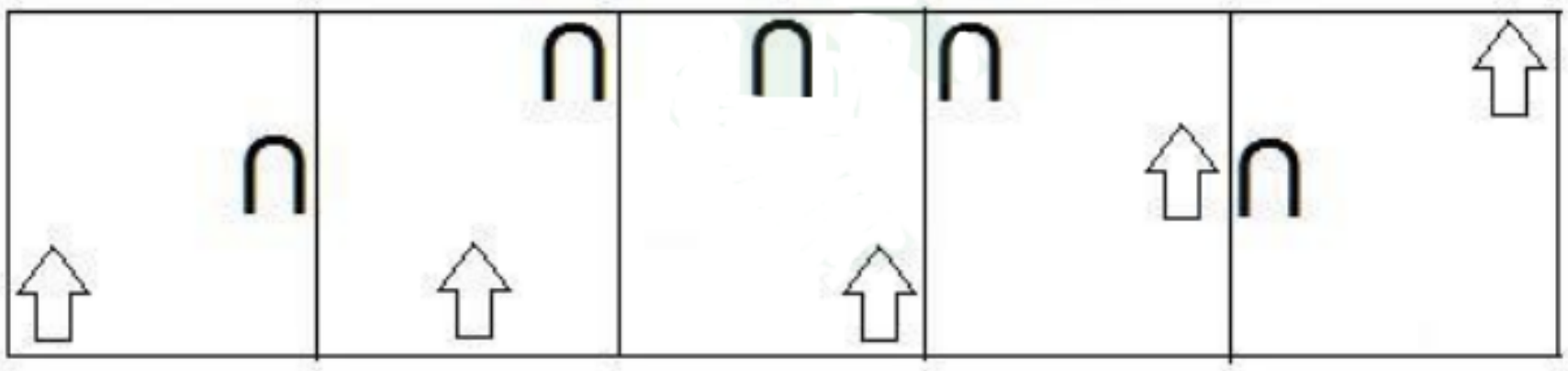
C F

D B

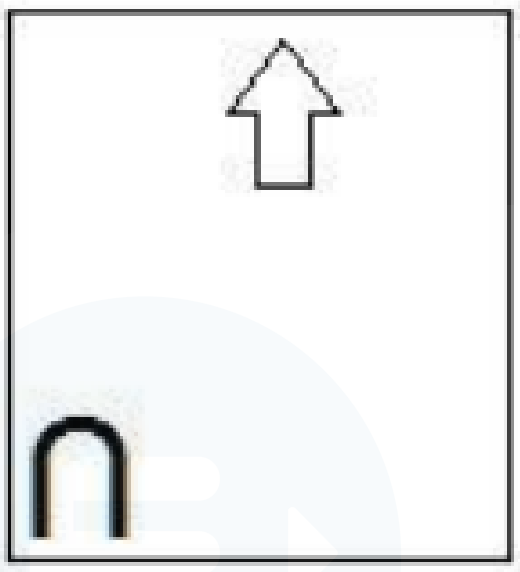
Solution

C is marked on the surface opposite the surface on which the letter E is printed.

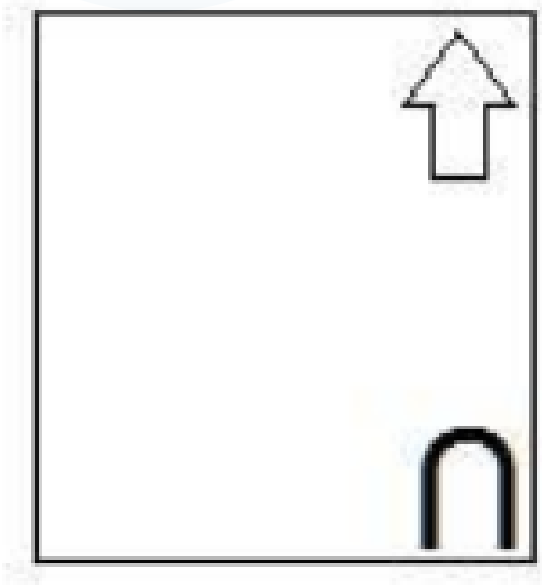
59. **Select the appropriate picture to come forward in the given series.**



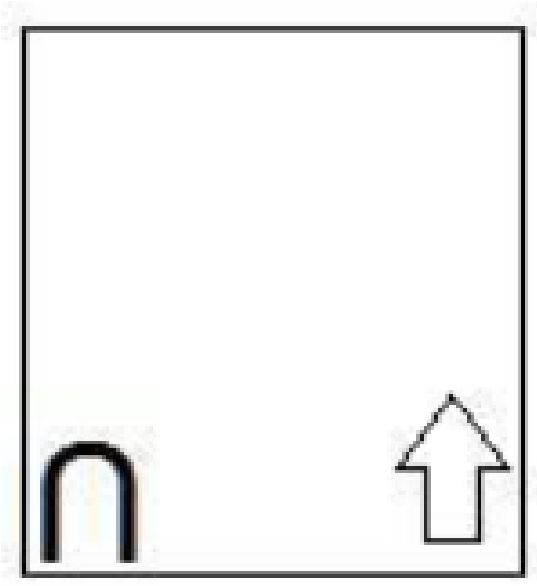
A



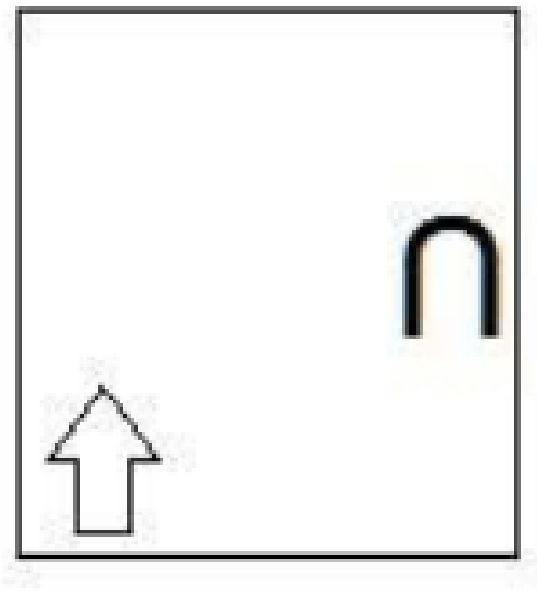
B



C



D



Solution

As per the given parttern the next picture will be, option A.

60. **Read the following logic and answer the given question.**

A @ B is A, B's husband.

A # B is the wife of A, B.

A $ B is the son of A, B.

A% B is the daughter of A, B.

In the equation X% Y @Z% W, how is the relation to the father of X related to W?

A **Son-in-law**

B Cage

C Father

D Nephew

Solution

Consider the relation,

X % Y @ Z % W

X is daughter of Y and Y is Z's husband and Z is daughter of W.

Father of X is Y and Y is Z's husband, and W is Z's mother, so Y is W's son-in-law.

61. **Change the question mark with the option that follows the logic applied to the first pair.**
Television: Electricity :: Car: ??

A Tyre

B **Fuel**

C Brake

D Water

Solution

TV needs electricity to start. Similarly, fues is needed by car.

62. **Carefully read the given information and answer the given questions.**

8 people sitting on the outside of the table, M, N, O, P, Q, R, S and T are sitting facing the table (not necessarily in the same order) in such a manner that there is a uniform distance between each of them. There are 5 men and 3 women. No two women have been sitting together.

i) M, which is a man, is sitting opposite S.
ii) T and N are neighbors.
iii) N is sitting on the third place from the right of O, which is a woman.
iv) M is neither Neighbor of Ne, nor is Ne N is neighbor.
v) A person is sitting between S and N.
vi) P is not a neighbor of M but sitting in front of R.
How many people are sitting between S and N while counting from the left of N?

A 3

B 4

C 5

D 1

Solution

One person is sitting between S and N while counting from the left of N

63. **Carefully read the given information and answer the given questions.**

8 people sitting on the outside of the table, M, N, O, P, Q, R, S and T are sitting facing the table (not necessarily in the same order) in such a manner that there is a uniform distance between each of them. There are 5 men and 3 women. No two women have been sitting together.

i) M, which is a man, is sitting opposite S. ii) T and N are neighbors. iii) N is sitting on the third place from the right of O, which is a woman. iv) M is neither Neighbor of Ne, nor is Ne N is neighbor. v) A person is sitting between S and N. vi) P is not a neighbor of M but sitting in front of R.

Which of the following statements regarding the system is wrong?

A **R is sitting at the third position with the right of S.**

B S and P are neighbors.

C Q and N are sitting in front of each other.

D S and N are women.

Solution

The wrong statement as per the given information is, R is sitting at the third position with the right of S.

64. **A statement in this question and the two conclusions related to them are given in the form of i and ii, assuming that the statements given in the statements to be true are to be considered together on both the findings and to make sure that the information given in the statement Which of the conclusions beyond reasonable doubt is logical?**

Statement: Every Monday is a working day. Today is a working day.

Conclusion:
i. Today is Monday.
ii. Only Monday is a working day. Choose the right one from the following options.

(A) The only conclusion i rational is.
(B) The only conclusion ii is logical.
(C) either i or ii conclusion is rational.
(D) neither i nor ii conclusion is rational.
(E) i and ii both conclusions are rational.

A B

B E

C A

D **D**

Solution

As per the given statement, we cannot conclude that today is Monday. Also, statements stats that every Monday is a working day. That does not convey that only Monday is a working day.

So, neither i nor ii conclusion is rational.

65. **In this question, a passage and a statement related to it have been given. Read carefully the verse and review the statement based on it.**

According to the National Monetary Authority (NMA), the Pune Municipal Corporation (PMC) and the Maharashtra Metro Rail Corporation (Maharashtra-Metro), decided to change the alignment of the Metro project on Ahmednagar Road to protect the Aga Khan Palace. So now the cost of the project will increase to Rs 50 crore for civil works, and the length of the corridor will increase to 900 meters. Metro officials Atul Gadgil and Prakash Waghmare informed the media on Friday about the decision. "There will be some changes in the Metro corridor near Aga Khan Palace and the length of the route will now increase to 900 meters," the Metro official confirmed this. PMC is yet to give final approval for the planned route.

Statement: Pune Municipal Corporation (PMC) has approved the alignment changes suggested by Maharashtra-Metro.

Select one of the following options. A. The statement is definitely true.
B. The statement is probably true.
C. Statement can not be determined
D. Statement is definitely wrong.

A **D**

B B

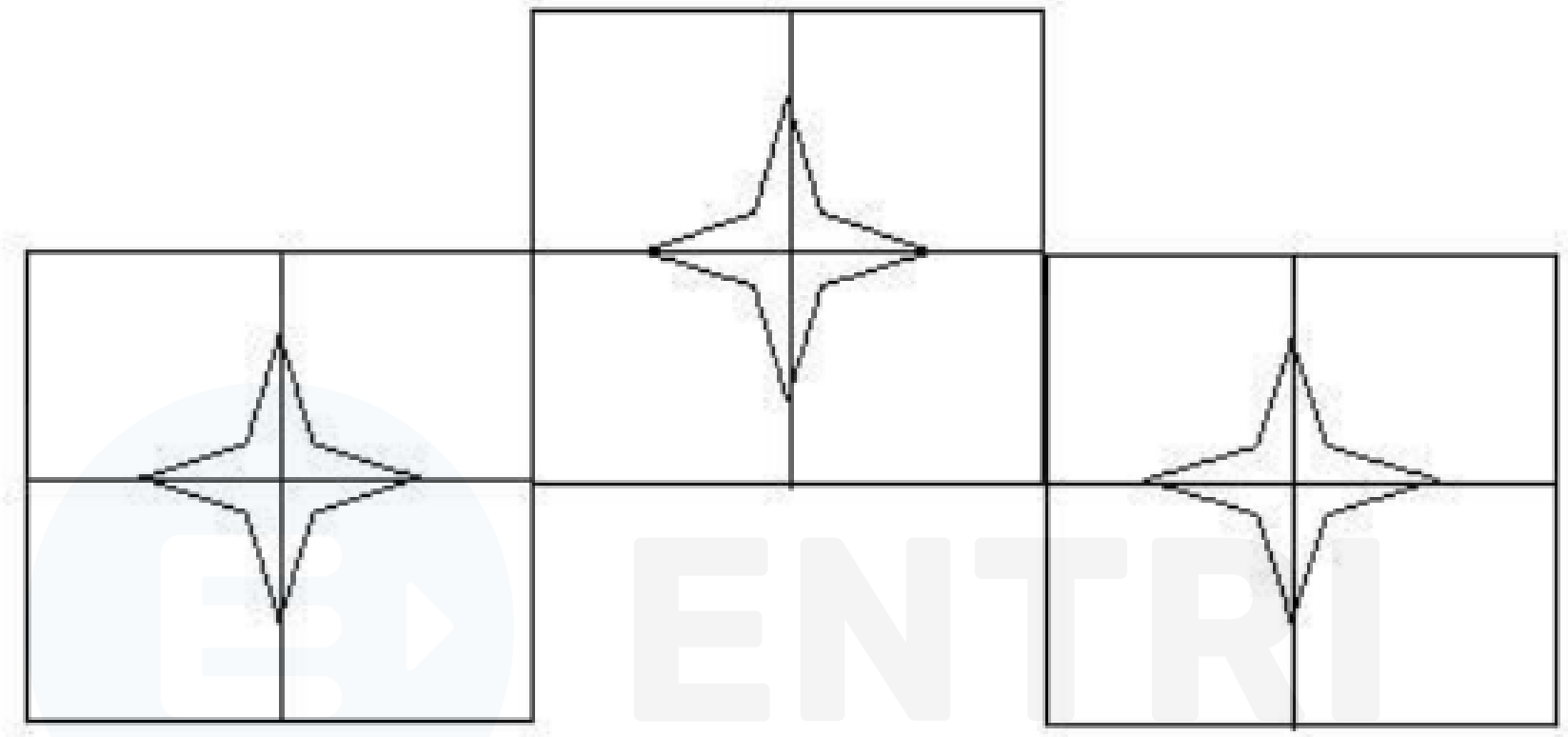
C A

D C

Solution

As per the given passage, the statement is wrong.

66. **How many classes are there in the given picture?**



A 8

B 15

C 13

D 10

Solution

There are 15 classes in the given picture.

67. **In a certain code language, if BROKE is written UEKHN, how will MIXER be written in the same code language?**

A LPAUH

B **LPTUH**

C MQSVI

D MQUVI

Solution

MIXER will be written as LPTUH in the given code.

68. **In this question, there are three statements showing the relation followed by three conclusions i, ii and iii. Assuming the statements as true, decide which conclusions / statements are true in relation to the statements.**

Statement. C ≤ U <E; C = O> M ≥ T; M = A> L

findings.

i) E> M

ii) C ≥ T

iii) L> T

A Only iii

B All

C **Only i**

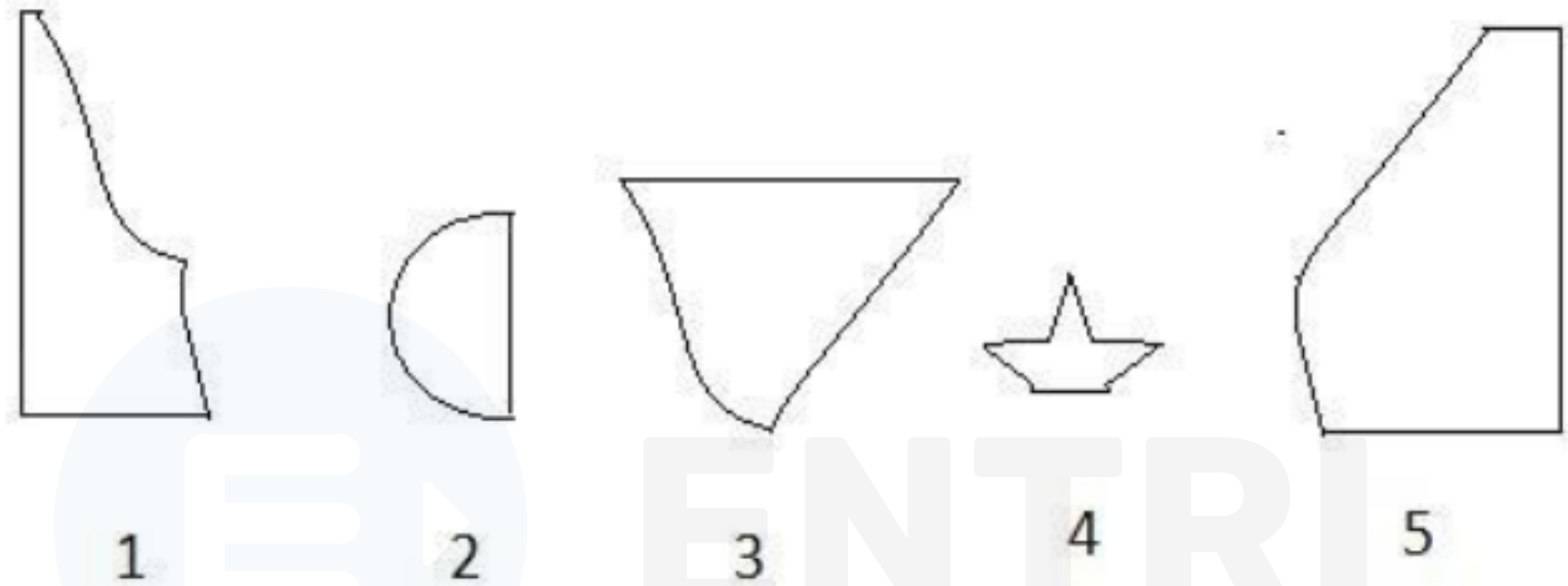
D i and ii only

Solution

As per given statements,

C < E and M < C, therefore, M < E. So only conclusion i follows.

69. **Select the correct option from the given options that can make a full square. (3 of the 5 images are given below)**



A **1,3,5**

B 1,2,3

C 1,4,5

D 2,3,4

Solution

Figures 1,3,5 can make a full square

70. **Four of the following five are identical in a certain way, so make a group.**
Which of these is not related to this group?
Q, M, I, S, T

A T

B S

C Q

D M

Solution

T is not related to this group.

71. **Change the question mark with the option that follows the logic applied to the first pair.**

Q: H: S: ??

A J

B A

C F

D M

Solution

J is related to S as H is related to Q.

72. **In a certain code language, if ANNOY is written as ZMMLB, then how will the SOUND be written in the same code language?**

A HFLMW

B HLFMW

C HLFWN

D HLFWM

Solution

Here, each letter is coded to the opposite letter in the alphabetic series.

So the code for SOUND will be, HLFMW

73. **Kirti's grandmother, the mother of Vivek's mother, is the mother of Manish. Venu is the father of Kirti. How is mother of kirti related to Vivek?**

A Grandmother

B Aunt

C Mother

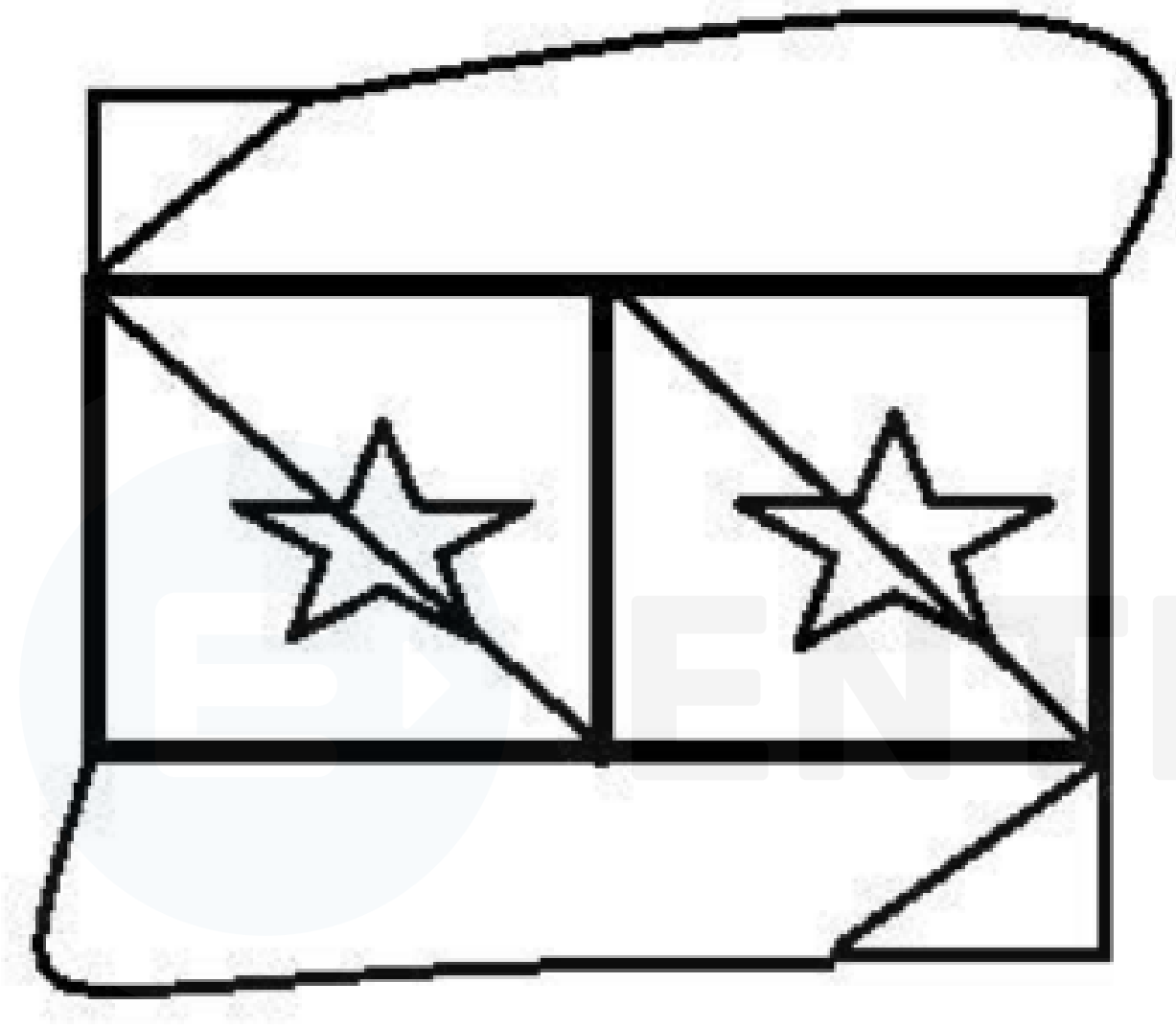
D Cage

Solution

Kirti's grandmother, the mother of Vivek's mother, is the mother of Manish.

So, Krithi's mother is Aunt of Vivek.

74. **How many right angled triangles can be made from the given shape?**



A 5

B 4

C 3

D **6**

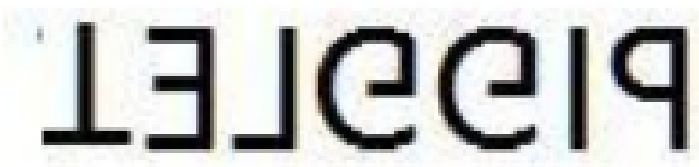
Solution

6 right angled triangles can be made from the given shape.

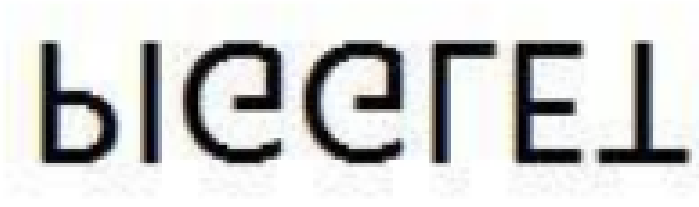
75. **If a mirror is placed on the shaded line, which of the following options is the correct image of the given figure?**

A

B



C

D 

Solution

The reflected image will be the image in option C.

76. **In this question the connection between different elements has been shown in the statement.**
After the statement two conclusions have been given.
Statement: M ≤ N <O ≥ P < Q
Conclusion:
i) M ≥ P
ii) O> M

Choose the right from the following options.
(A) The only conclusion i rational is.
(B) The only conclusion ii is logical.
(C) either i or ii conclusion is rational.
(D) neither i nor ii conclusion is rational.
(E) i and ii both conclusions are rational.

A C

B D

C A

D **B**

Solution

From the statement, M < O, so conclusion ii follows.

77. **The two statements in this question and the two conclusions related to them are given in the form of i and ii, assuming that the statements given in the statements to be true are to be considered together at both the conclusions and to make sure that the information given in the statement**

Which of the conclusions beyond reasonable doubt is logical?

Statement: All teak , banyan. All are banyan wood.
Conclusion:
i) All wood, teak are.
ii) There are some banyan, teak.
Select from the following options,
(A) only conclusions i is logical.
(B) The only conclusion ii is logical.
(C) Either i or ii conclusion is logical.
(D) neither i nor ii conclusion is rational.
(E) i and ii both conclusions are rational.

A C

B E

C **B**

D A

Solution

From statement, some banyan are teak. So only conclusion ii is logical.

78. **Five to four in the following are similar in a certain way, so a group is formed.**

Which of these is not related to this group?

RNJ, LHD, KGC, MIE, PKF

A **PKF**

B RNJ

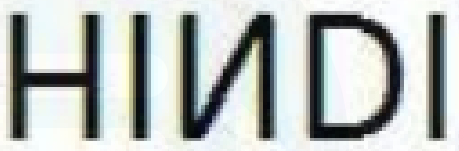
C KGC

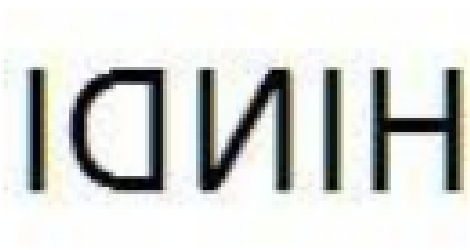
D LHD

Solution

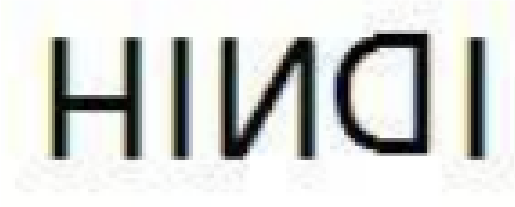
Here except PKF, in all other series, there are three letters in between each letter as per alphabet series.

79. **Choose the right water image of the given question from the given options.**

A 

B 

C

D 

Solution

Th water image of the text HINDI will be the option A.

80. **Select the next number in the series.**

61, 63, 66, 71, 78,?

A 98

B **89**

C 90

D 80

Solution

The pattern of the series is,

$61 + 2 = 63$
$63 + 3 = 66$
$66 + 5 = 71$
$71 + 7 = 78$
$78 + 11 = 89$

81. **Change the question mark with the option that follows the logic applied to the first pair.**

2018: 22 :: 2022: ??

A 14

B 12

C 16

D 10

Solution

As per the logic applied in the first pair, 2022 is related to 12.

82. **Four of the following five are similar in a certain way, so create a group.**
Which of these is not related to this group?
Liquid, Concrete, Solution, Fluid, Juice

A Juice

B Solution

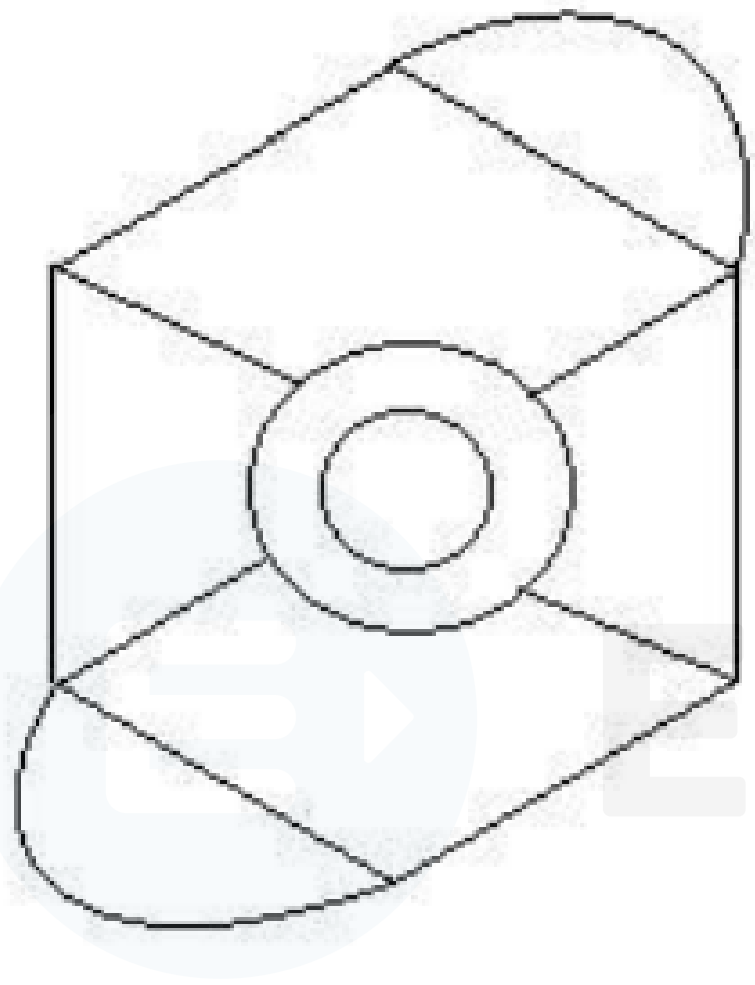
C **Concrete**

D Fluid

Solution

Concrete is solid, whereas the remaining are fluid.

83. How straight lines are there in the given picture?



A 14

B 10

C 12

D 16

Solution

There are 10 straight lines in the given picture.

84. **Select the next number in the series.**

16, 33, 68, 139, 282,?

A **569**

B 560

C 585

D 570

Solution

The pattern of the given series is,

$16 \times 2 + 1 = 33$
$33 \times 2 + 2 = 68$
$68 \times 2 + 3 = 139$
$139 \times 2 + 4 = 282$
$282 \times 2 + 5 = 569$

85. **Referring to a girl, a woman says, "She is the daughter of my son-in-law's wife's brother." So how is that woman related to that girl?**

A Mother

B Great Grandmother

C Aunt

D Grandmother

Solution

The girl is woman's son-in-law's wife's brother's daughter. The woman's son-in-law's wife is woman's daughter and her brother is woman's son. So the girl is woman's granddaughter.

Woman is great grandmother of the girl.

86. **If the radius of a circle is given up to 19 times, how much of its perimeter will be the perimeter of the previous perimeter?**

A 20

B 19

C 21

D 18

Solution

If radius is 'r', then perimeter or circumference will be, $2\pi r$

So if the radius of a circle is given up to 19 times, then perimeter will be also 19 times.

87. **Selling an item for 440 rupees is the loss of 60% of the profit received on selling the same item in 1000 rupees. Know the purchase price of that item? (In rupees)**

A **650**

B 680

C 660

D 670

Solution

Let the purchase price be Rs. x

Profit when sold for Rs. 1000, is,

$Profit = 1000 - x$

60% of this profit will be,

$600 - 0.6x$

So the loss when sold for Rs. 440 will be,

$x - 440 = 600 - 0.6x$

$1.6x = 1040$

$x = 650$

88. Tell the product of two numbers, which are LCM 9017 and HCF 1.

A 9015

B 9011

C **9017**

D 9013

Solution

Given,

⇒ LCM of two numbers = 9017

⇒ HCF of two numbers is = 1

As we know,

⇒ The product of the two numbers = HCF × LCM

⇒ The product of the two numbers = 9017 × 1 = 9017

89. **In the mixture of 84 liters, the ratio of milk and water is 3: 4. If this ratio is changed to 3: 5, then tell the amount of excess water (in liters) mixed in the mixture.**

A 11

B 13

C 14

D **12**

Solution

In the mixture of 84 liters, the ratio of milk and water is 3: 4.

So the amount of milk initially is, $84 \times \frac{3}{7} = 36\ liters$

The amount of water initially is, $84 \times \frac{4}{7} = 48\ liters$

Ratio of milk and water is 3 : 5, so the amount of water in the new mixture will be,

$36 \times \frac{5}{3} = 60\ liters$

Therefore, the amount of excess water to be mixed will be, 12 liters.

90. **Martin donated 13% of his salary to an organization working for the blind people, 12% of his salary to the orphanage, 14% of his salary, the institution working for the physically challenged people, and 16% of his salary Doctoral Assistance Institution The remaining amount of the salary is deposited in the bank for Rs 42,750 monthly expenditure. Find out the amount donated in the orphanage.**

A Rs.14,400

B Rs.13,400

C **Rs.11,400**

D Rs 12,400

Solution

Let the total salary of the Martin be Rs. x

Total Percentage of donated salaries = 13 + 12 + 14 + 16 = 55%

According to the question,

$\Rightarrow x \times \frac{45}{100} = 42750$

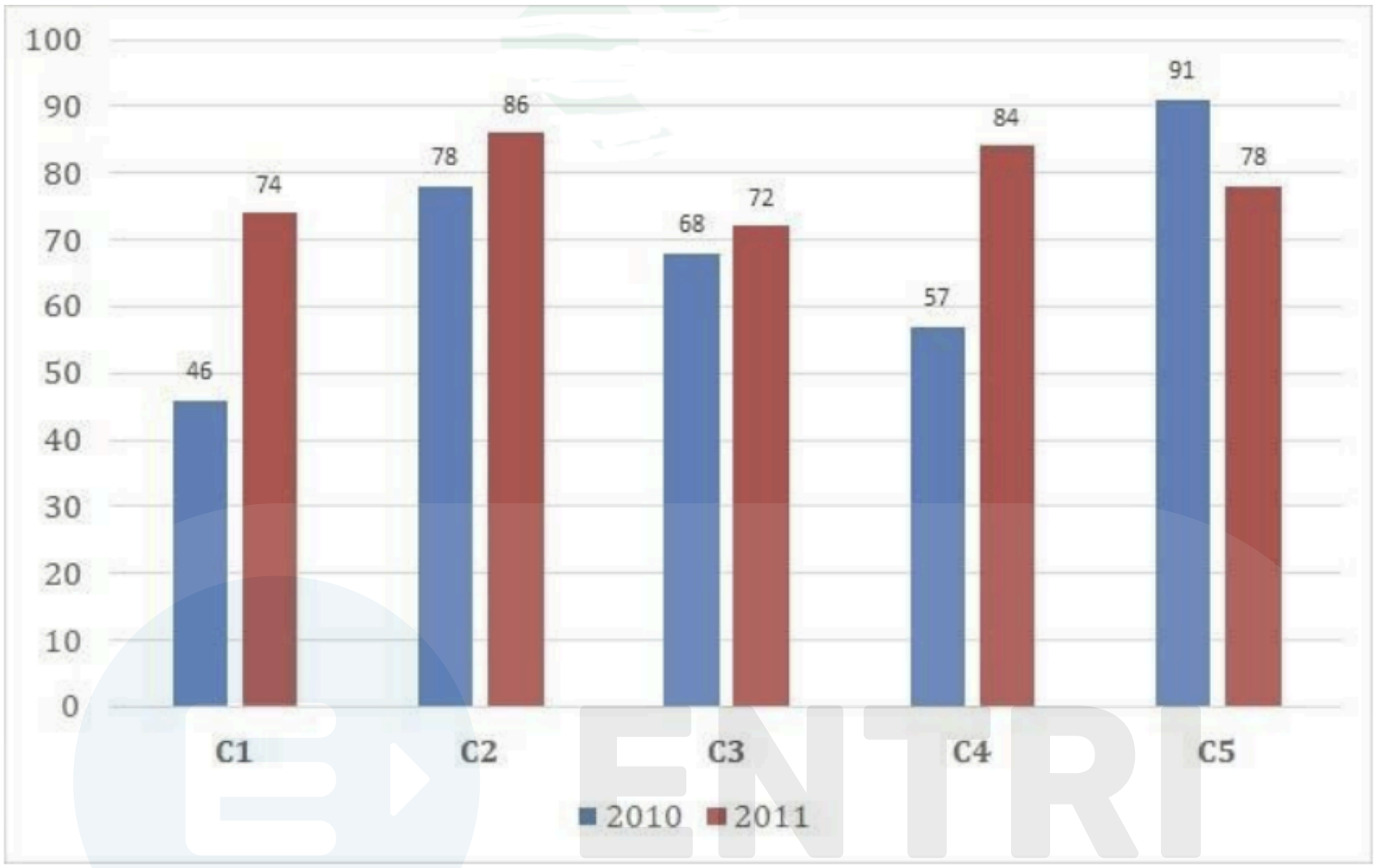
$\Rightarrow x = 42750 \times \frac{100}{45} = 95000.$

$\therefore$ The amount donated in the orphanage = $95000 \times \frac{12}{100}$ = Rs. 11400.

91.

Instructions: Study the following times graph and answer the question on the basis:

Sales of books (in thousand rupees) given in two successive years of 2010 and 2011 of five branches of a publishing company have been given.



A. Find out the average (in thousand) of sales for all branches in 2010

A 72

B **68**

C 66

D 74

Solution

Required average in thousands is,

$\frac{46+78+68+57+91}{5} = 68$

B. Find out the ratio of the total sales done in both the years of branch C2 and the total sales volume in both years of branch C4.

A 163: 140

B 161: 138

C **164: 141**

D 162: 139

Solution

Total sales done in both the years of branch C2 = $78 + 86 = 164$

Total sales done in both the years of branch C4 = $57 + 84 = 141$

Required ratio is 164 : 141

92. **A person travels from the hostel to the college with a speed of 15 kmph from the bicycle and reaches a 4.5 minute delay. If he runs a bike with a speed of 20 kmph, then it reaches 4.5 minutes. Describe the distance between hostel and college. (In km)**

A 8

B 6

C 9

D 7

Solution

Let the distance between hostel and college be x km. Let the time be t minutes.

Therefore,

$\frac{x}{\frac{15}{60}} = t + 4.5 \ldots . (1)$

$\frac{x}{\frac{20}{60}} = t - 4.5 \ldots . . (2)$

(1) - (2),

$4x - 3x = 9$

$x = 9$

93. **In one box, three different types of old coins are in the ratio of 3: 5: 7, the value of old coins is Rs. 1, 5 and 10 rupees respectively. If the total price of coins kept in the box is 686, then tell the number of old coins of 10 rupees.**

A 48

B 51

C 50

D **49**

Solution

Ratio of coins of Rs. 1, 5 and 10 rupees = 3 : 5 : 7

⇒ Ratio of values of Rs. 1, 5 and 10 rupees = 3 × 1 : 5 × 5 : 7 × 10 = 3 : 25 : 70

⇒ 3 + 25 + 70 = 98 units

⇒ 98 unit = 686

⇒ 1 unit = $\frac{686}{98}$ = 7

Total value of coins of Rs. 10 = 7 × 70 = Rs. 490

Total number of coins of Rs. 10 = $\frac{490}{10}$ = 49

∴ The total number of coins of Rs. 10 is '49'.

94. **An amount of Rs 7,600 is invested on ordinary interest at an annual rate of 8%. If after 5 years the amount was withdrawn and half the amount of the total amount was invested in the stock market. The remaining amount (in rupees)**

A 5,420

B 5,220

C 5,210

D **5,320**

Solution

Principal amount = Rs. 7600

Total amount after 5 years = $7600 + 7600 \times \frac{5 \times 8}{100} = Rs. 10640$

The remaining amount will be, $\frac{10640}{2} = Rs. 5320$

95. **When a number is divided by 119, the remainder remains 10. When the same number is divided by 17, what will be the remainder?**

A 7

B 9

C 8

D 10

Solution

Let the number be x

Quotient = q

Divisor (d) = 119

Remainder (r) = 10

We know that,

Dividend = (Divisor × Quotient) + remainder

⇒ x = (d x q) + r

x = (119 x q) + 10

Same number when divided by "17":

$x = (17 \times 7 \times q) + 10$

$x = 17\ (7q + 1) + 10$

$\therefore$ The remainder is 10.

96. Solve.

$324^2 \times 72 \div 18^5 \times 1021 = ?$

A 4054

B 4064

C 4074

D **4084**

Solution

$324^2 \times 72 \div 18^5 \times 1021 = ?$

$18^4 \times 4 \times 18 \div 18^5 \times 1021 = ?$

$? = 4 \times 1021 = 4084$

97. **375! In the trailing Zeros, let us know.**

A 93

B 94

C 92

D 91

Solution

In 375!, there will be 93 trailing zeros because there will be 93 factors of 10.

98. **If a shopkeeper hikes the purchasing value of an item by 46% and gives it a discount of 46% on the face value for selling it, then know the total percentage gain or loss it will have?**

A 21.16% profit

B 20.04% Loss

C 20.04% Profit

D **21.16% Loss**

Solution

Let the cost price be Rs. x

Therefore, marked price will be 1.46x

Discount is 46%, so the selling price will be,

$1.46x \times \frac{100-46}{100} = 0.7884x$

Therefore, the required loss will be, $\frac{x-0.7884x}{x} \times 100 = 21.16\%$

99. **Total area of the piece of glass square is 1444 Cm^2. Which is placed above a table. The width between the table and the edge of the glass piece is 9 cm. Tell the length of the table (in cm)**

A 54

B 58

C 52

D **56**

Solution

Total area of the piece of glass is 1444 cm^2

Therefore, side of the square will be, $\sqrt{1444} = 38\ cm$

Therefore, the length of the table is, $38 + 9 + 9 = 56\ cm$

100. **A train takes 57 seconds to cross the 204 m long bridge. If the same train takes 23 seconds to cross a signal board, tell the length of the train. (In meters)**

A 138

B 128

C 118

D 148

Solution

Time taken to cross the bridge $= 57s$

Length of the bridge $= 204m$

Speed $= \frac{Distance}{time}$

Distance $=$ length of the train $+$ length of the bridge

Let the length of the train be x.

$\Rightarrow \frac{(x+204)}{57} = \frac{x}{23}$

$\Rightarrow 23x + 4692 = 57x$

$\Rightarrow 57x - 23x = 4692$

$\Rightarrow 34x = 4692$

$\Rightarrow x = \frac{4692}{34}$

$\Rightarrow x = 138\ m$

$\therefore$ Length of the train is $138\ m$.

101. **At the rate of any compound interest rate, it gets tripled in 4 years, in how many years it will become 2187 times its own?**

A 22

B 26

C **28**

D 24

Solution

If money placed in compound interest doubles in n years, then number of years required to multiply that to 3^k is $n \times k$.

Here $n = 4$.

Given the money will amount to 2187 times in T years, we know $2187 = 3^7$. So, $k = 7$.

$\therefore$ The money will amount to 2187 times in$\rightarrow 4 \times 7 = 28$ years.

102. **A person travels at the speed of 16 kmph, 24 kmph and 12 kmph on the surface of an equilateral triangle and the ground. Find the average speed of the entire journey. (In Kmph)**

A 16

B 17

C 15

D 18

Solution

Let the side of the triangle be x km.

As we know,

Average speed = total distance÷ total time

$\Rightarrow$ Time to cover x km distance at a speed of 16 km/hr $=\frac{x}{16}$ hrs

$\Rightarrow$ Time to cover x km distance at a speed of 24 km/hr $=\frac{x}{24}$ hrs

$\Rightarrow$ Time to cover x km distance at a speed of 12 km/hr $=\frac{x}{12}$ hrs

$\therefore$ Average speed $=\frac{3x}{\frac{x}{16}+\frac{x}{24}+\frac{x}{12}}$

$=\frac{3x}{\frac{3x+2x+4x}{48}}=\frac{3x}{9x}\times 48$

$=16\ km$

103. **A shopkeeper sells a product in Rs.2,367 and earns 12.5% profit. Tell the amount that is equal to half of the purchase price of the product (in Rs.)**

A **1052**

B 1062

C 1042

D 1032

Solution

According to the question,

Selling price of the article = Rs. 2367

SP = CP + Profit

$\Rightarrow$ Cost price of the article = Rs. 2367 $\times \frac{100}{112.5}$ = Rs. 2104

Half of the cost price = 2104 $\div$ 2 = Rs. 1052

$\therefore$ Half of the purchase price of product is Rs. 1052

104. **Aamir distributed 875 gifts among 4 children. The first part of the child is twice the portion of the other child, three times the size of the third child and four times the fourth child's share. Show the sum of the total gifts received by the first and the second child.**

A 610

B **630**

C 620

D 640

Solution

Let first, second, third, fourth child got

a, b, c, and d gifts respectively

$a = 2b = 3c = 4d = 12x$ (suppose)

$a = 12x, b = 6x, c = 4x, d = 3x$

$12x + 6x + 4x + 3x = 875$

$x = 35$

Gifts received by first and second child

$= 12x + 6x = 630$

105. **A gift box has 10 bangles. The average weight of the first 4 bangles is 57 gms and the average weight of the remaining 6 bangles is 58 gms. Tell the average weight of all bangles | (in grams)**

A 57.4

B 57.2

C **57.6**

D 57.8

Solution

Total weight of the 10 bangles $= 4 \times 57 + 6 \times 58 = 576$

Therefore, the required average will be, $\frac{576}{10} = 57.6\ gms$

106. **The average weight of 71 notebooks kept in a box is 7.1 kg. When a new notebook is placed in the box, then the average is 7.2kg. Specify the weight of the new notebook. (In Kg)**

A **14.3**

B 14.6

C 14.4

D 14.5

Solution

The average weight of the 71 notebooks is $= 7.1\ kg$

$\Rightarrow$ Sum of weight of the 71 notebooks $= 71 \times 7.1 = 504.1\ kg$

The average weight of the 72 notebooks is $= 7.2\ kg$

$\Rightarrow$ Sum of weight of the 72 notebooks is $= 72 \times 7.2 = 518.4\ kg$

$\therefore$ Weight of the 72^{nd} book $= 518.4 - 504.1 = 14.3\ kg$

107. **A bulb producing company found 13% of the total product defective. If the total number of nondefective products is 4959, then specify the number of total defective products.**

A 751

B 731

C **741**

D 761

Solution

Let the total number of producs be x.

Since 13% of the total producs is defective, then the 87% will be the nondefective products.

Therefore, $0.87x = 4959$

$x = \frac{4959}{0.87} = 5700$

Therefore, the number of defective products = $5700 \times 0.13 = 741$

108. Find the value of x.

$$\frac{2}{5}x + \frac{3}{10}x - \frac{3}{5}x = 531$$

A 5210

B 5410

C **5310**

D 5510

Solution

$$\frac{2}{5}x + \frac{3}{10}x - \frac{3}{5}x = 531$$

$$\frac{4x+3x-6x}{10} = 531$$

$$x = 5310$$

109. **Vimal received 72 out of 80 marks in French, 91 out of 100 in English, 63 out of 70 in Spanish and 44 out of 50 in Japanese. What was the total percentage achieved by him? (% In)**

A 70

B 100

C 80

D **90**

Solution

Total percentage will be,

$72 + 91 + 63 + 44(80 + 100 + 70 + 50) \times 100$

$= \frac{270}{300} \times 100 = 90\%$

110. **Sheila walks at the speed of her usual speed $\frac{20}{21}$ and determines a clear distance in six minutes more than the time it takes in normal speed. Calculate the normal time it takes in determining a certain distance.**

A 130

B **120**

C 140

D 150

Solution

Let the distance be x and normal speed by s. So time taken when walks at normal speed will be, $t = \frac{x}{s}$

When walks at $\frac{20}{21}s$ she takes 6 minutes more.

$$\frac{x}{s} + 6 = \frac{x}{\frac{20}{21}s}$$

$$\frac{21x}{20s} - \frac{x}{s} = 6$$

$$\frac{x}{20} = 6$$

$$x = 120$$

111. **If the cube with a $26\sqrt{3}$ cm diagonal is melted then how tall is the height of the cuboid, if the length of the cuboid is equal to the arm of the cube, and the width of the cuboid is 13 cm? (in cm)**

A 52

B 54

C 53

D 55

Solution

Volume of cube $= a^3$

Volume of cuboid = lbh

Diagonal of the cube = $\sqrt{3}$a

$\Rightarrow \sqrt{3}a = 26\sqrt{3}$

$\Rightarrow$ a = 26 cm

Length of the cuboid, l = 26 cm

Let height of the cuboid be h cm

Width of the cuboid, b = 13 cm

According to the question

$26 \times 13 \times h = 26 \times 26 \times 26$

$\Rightarrow h = \frac{(26 \times 26 \times 26)}{(26 \times 13)}$

$\therefore h = 52$ cm

112. Find the value of x

$$\sqrt{441} \div 21 + \sqrt{484} = 1 \times x$$

A 26

B 25

C **23**

D 24

Solution

$\sqrt{441} \div 21 + \sqrt{484} = 1 \times x$

$21 \div 21 + 22 = x$

$x = \mathbf{23}$

113. **How can 368 mobile phones be shared equally in the students present in the classroom?**

A 18

B **16**

C 14

D 12

Solution

368 is divisible by 16 only, so option B is correct.

114. **An English-based company has 629 men and 629 female employees in a collaborative project. The average attendance of all employees is 72 calls per day. On average, an average 72 calls are received by a male employee every day. What will be the average of the number of calls being added by the women staff daily?**

A 72

B 74

C 71

D 73

Solution

An English-based company has 629 men and 629 female employees in a collaborative project. The average attendance of all employees is 72 calls per day. On average, an average 72 calls are received by a male employee every day. Since number of male and female is the same, average of the number of calls being added by the women staff daily will be 72 calls.

115. **The station master decides that the length of the rectangular digital board is increased by 4% and the width is reduced to 6%. Find out the total change in the area.**

A 1.24% reduction

B 2.24% increase

C **2.24% reduction**

D 1.24% increase

Solution

Initially, length of the rectangular board is L and the width be W.

Therefore, initially the area will be, $A_1 = LW$

Length of the rectangular board after increasing will be 1.04L

Width of the rectangular board after decreasing will be 0.94W

Therefore, new area will be, $A_2 = 1.04L \times 0.94W = 0.9776LW$

So the percentage reduction will be, 2.24%

116. **The difference between earned interest on the same amount invested for 2 years on compound interest and simple interest is Rs. 76. If interest rates are 4% per year, then calculate the amount invested. (In rupees)**

A 51,500

B **47,500**

C 48,500

D 49,500

Solution

Let the principal amount be Rs. P

Therefore, simple interest after 2 years will be, $S.I = P \times \frac{2 \times 4}{100} = 0.08P$

Compound interest after 2 years will be,

$C.I = P \times (1 + \frac{4}{100})^n - P = 0.0816P$

The difference is Rs 76.

$0.0816P - 0.08P = 0.0016P = 76$

$P = \frac{76}{0.0016} = Rs.47500$

117. **Solve.**

$15.73 + 13.25+16.73-28.64 = 3 \times ?$

A **5.69**

B 5.49

C 5.59

D 5.79

Solution

$15.73 + 13.25+16.73-28.64 = 3 \times ?$

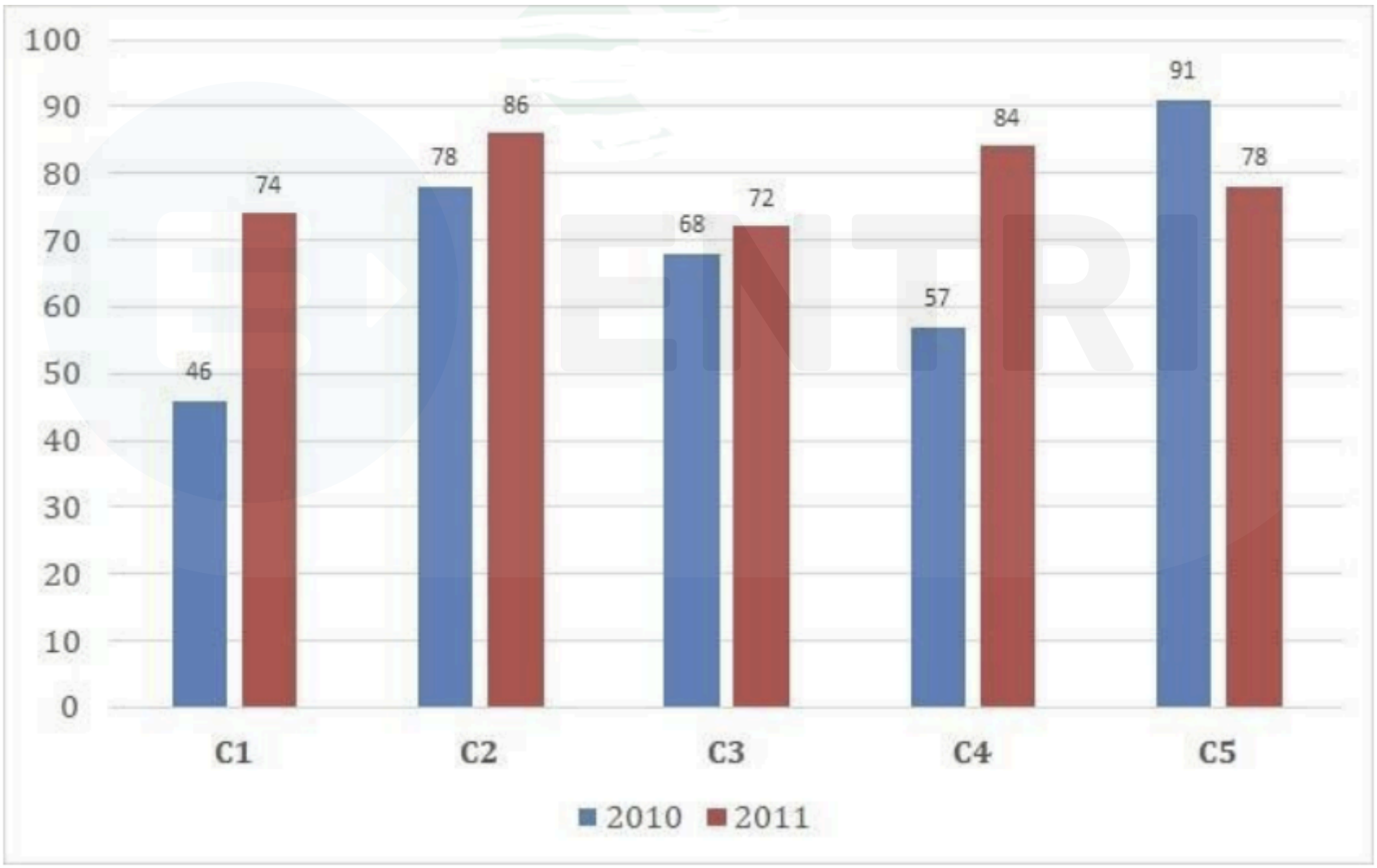
$17.07 = 3 \times ?$

$? = 5.69$

Instructions: Study the following times graph and answer the question on the basis:

Sales of books (in thousand rupees) given in two successive years of 2010 and 2011 of five branches of a publishing company have been given.

118. **In the last two years, together with the company's branches C1, C3 and C5, make a total sales (in thousand).**



A 439

B 419

C **429**

D 409

Solution

Total sales by company's branches C1, C3 and C5 in two years =

$120 + 140 + 169 = 429$

119. **The proportion of salaries of Hameed, Clement and Ganesh is 3: 5: 7, respectively, if Ganesh is getting Rs.892 more from Hameed. What is Clement's salary? (In rupees)**

A 1,145

B **1,115**

C 1,125

D 1,135

Solution

The proportion of salaries of Hameed, Clement and Ganesh is 3: 5: 7.

Let their salaries be 3x, 5x and 7x. Given, anesh is getting Rs.892 more than Hameed.

Therefore, 4x = 892.

Therefore, x = $\frac{892}{4} = 223$

Therefore, Clement's salary = $5x = 5 \times 223 = Rs.1115$

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