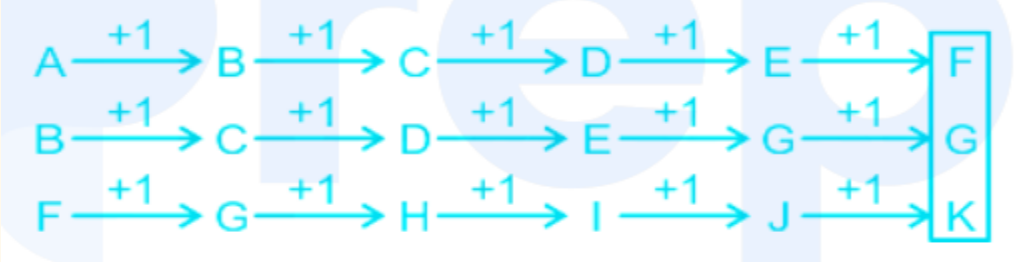
RRB NTPC 8 Jan 2021 Shift 1 Solution

1. Select the letter-cluster from among the given options that can replace the question mark (?) in the following series
ABF, BCG, CDH, DEI, EFJ, ?
a. FGL
b. FGK
c. FGA
d. FGC

Ans. b
Explanation:
The logic here is:
Each letter is increasing by + 1 , as shown below,



Hence, FGK is the correct answer.

2. In the Computer field, FORTRAN stands for:
a. Format Transformer
b. Foreign Transmitter
c. Forensic Transistor
d. Formula Translation

Ans. d
Explanation:
The correct answer is Formula Translation.
Fortran : It is a computer programming language that is extensively used in numerical, scientific computing.

FORTRAN stands for Formula Translation. Hence, Option 4 is correct.

3. Simplify

$\frac{3}{4} \div \frac{5}{12} - \frac{1}{3} \times \frac{9}{5} \left(\frac{2}{3} \div \frac{1}{3} - 1\right)$

a. $\frac{6}{7}$

b. $\frac{12}{5}$

c. $\frac{5}{6}$

d. $\frac{6}{5}$

Ans. d

Explanation:

Concept Used:

Follow the BODMAS rule

Calculation:

$\frac{3}{4} \div \frac{5}{12} - \frac{1}{3} \times \frac{9}{5} \left(\frac{2}{3} \div \frac{1}{3} - 1\right)$

⇒3/4 ÷ 5/12 – 1/3 × 9/5 × (2/3 × 3/1 – 1)

⇒ 3/4 ÷ 5/12 – 1/3 × 9/5 × (2 – 1)

⇒ 3/4 ÷ 5/12 – 1/3 × 9/5 × 1

⇒ 3/4 ÷ 5/12 – 1/3 × 9/5

⇒ 3/4 × 12/5 – 1/3 × 9/5

⇒ 9/5 – 1/3 × 9/5

⇒ 9/5 – 3/5

⇒ 6/5

∴ The required value is $\frac{6}{5}$

4. Which former ISRO chairman has been awarded France's highest civilian honour in 2019?

a. Kailasavadivoo Sivan

b. G Madhavan Nair

c. K. Radhakrishnan

d. A.S. Kiran Kumar

Ans. d

Explanation:

The correct answer isA.S. Kiran Kumar.
A.S. Kiran Kumar
Former ISRO chairman A S Kiran Kumar was, on May 2, 2019, conferred with France's highest civilian honour, Chevalier de l'Ordre national de la Legion d'Honneur, for his contribution to India-France space cooperation. Hence, Option 4 is correct.

5. Three consecutive integers when taken in increasing order and multiplied by 2, 3 and 4 respectively adds up to 74. What is the greatest number?
a. 9
b. 10
c. 8
d. 14

Ans. a
Explanation:
Calculation:
Let the three consecutive integers be x, x + 1 and x + 2 respectively
According to the question
⇒ 2x + 3(x + 1) + 4(x + 2) = 74
⇒ 2x + 3x + 3 + 4x + 8 = 74
⇒ 9x + 11 = 74
⇒ 9x = 74 – 11
⇒ 9x = 63
⇒ x = 63/9
⇒ x = 7
Thus, the integers are:
First integer. = x = 7
Second integer = x + 1 = 8
Third integer = x + 2 = 9
∴ The greatest number is 9

6. If the number 356yx is divisible by 90, then (y - x) is:
a. 3
b. 4
c. 1
d. 2

Ans. b
Explanation:
Given:
The number 356yx is divisible by 90
Calculation:
For divisibility by 10 the last digit of the number must be 0
Similarly, for divisibility by 9, sum of digits of that number must be divisible by 9
Here, 356yx is divisible by 90 .i.e. 356yx is divisible by 9 and 10
356yx is divisible by 10
So, the value of x = 0
Now, 356y0 is divisible by 9
So, (3 + 5 + 6 + y + 0) = (14 + y) is divisible by 9
So, the smallest number that should be added to 14 that is also divisible by 9 is 4
⇒ y = 4
Now,
(y – x) = (4 – 0)
⇒ 4
∴ The required value is 4

7. Who said the following when laying the foundation stone ceremony of Banaras Hindu University, "There is no salvation for India unless you strip yourself of this jewellery and hold it in trust for your countrymen in India."?
a. Mohammad Ali Jinnah
b. Annie Besant
c. Gopal Krishna Gokhale
d. Mahatma Gandhi

Ans. d
Explanation:
The correct answer is Mahatma Gandhi.

8. Four figures have been given, out of which three are alike in some manner and one is different. Select the odd one.

a. 

b. 

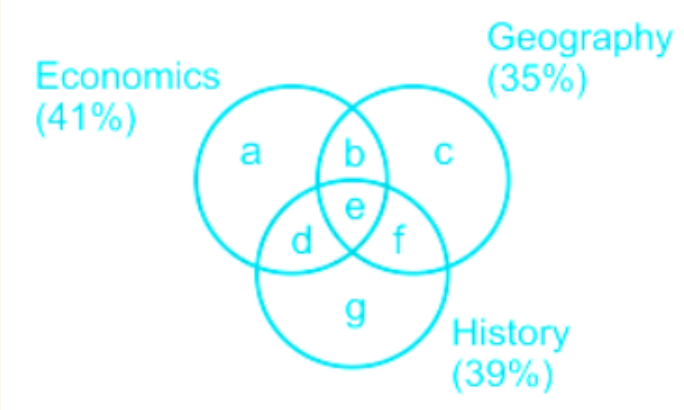
c. 

d. 

Ans. d
Explanation:
The logic followed here is:
All figures have a circle inside a triangle except in option figure (4). Option figure (4) has a triangle inside a circle.
Hence, "Option 4" is the odd one.

9. In an examination, 41% of students failed in Economics, 35% of students failed in Geography and 39% of students failed in History, 5% of students failed in all the three subjects, 14% of students failed in Economics and Geography, 21% of students failed in Geography and History and 18% of students failed in History and Economics. Find the percentage of students who failed in only Economics.
a. 16%
b. 14%
c. 12%
d. 10%

Ans. b
Explanation:
According to the question, let the following Venn diagram,



Now,
e = 5%
b + e = 14%
⇒ b = 9%
and,
d + e = 18%
⇒ d = 13%
Therefore,
Percentage of students who failed only in Economics = a = 41% - (b + e + d)
a = 41% - (9 + 5 + 13)%
a = 41% - 27%
a = 14%
Hence, 14% is the correct answer.

10. Which missile-destroyer of the Indian Navy has been decommissioned after 36 years in May, 2019 ?
a. INS Rana
b. INS Vikramaditya
c. INS Ranjit
d. INS Vikrant

Ans. c
Explanation:
The correct answer isINS Ranjit.
The Indian Navy's frontline missile destroyer INS Ranjit decommissioned after 36 years of service. Hence, Option 3 is correct

11. INTERPOL has its headquarters in _____
a. Germany
b. France
c. Switzerland
d. Spain

Ans. b
Explanation:
The correct answer isFrance.
INTERPOL is headquartered in Lyon, France. Hence, Option 2 is correct.

12. Which is the world's largest freshwater lake in terms of volume?
a. Lake Baikal
b. Lake Michigan-Huron
c. Caspian Sea
d. Lake Superior

Ans. a
Explanation:
The correct answer is Lake Baikal.
Lake Baikal is the largest freshwater lake by volume in the world, containing roughly 20% of the world's unfrozen surface freshwater. Hence, Option 1 is correct.

13. Which is the second highest constitutional office in India?
a. Prime Minister
b. President
c. Vice President
d. Governor

Ans. c
Explanation:
The correct answer isVice President.
The Vice President of India is the second-highest constitutional office in India after the President. Hence, Option 3 is correct.

14. As of Nov 2020, who is the President of the World Bank?
a. Shanta Devrajan
b. Kristalina Georgieva
c. Jim Yong Kim
d. David R. Malpass

Ans. d
Explanation:
The correct answer is David R. Malpass.
David R. Malpass was selected as 13 th President of the World Bank Group by its Board of Executive Directors on April 5, 2019. Hence, Option 4 is correct.

15. 25% of a number is 7 more than 30% of another number. The difference between the numbers is 29. What are the numbers?
a. 39 and 10
b. 40 and 11
c. 37 and 8
d. 34 and 5

Ans. d
Explanation:
Given:
25% of a number = 7 more than 30% of another number
Difference between the numbers = 29
Calculation:
Let the numbers be x and y respectively
According to the question
⇒ 25/100 × x = (30/100 × y) + 7
⇒ x/4 = (3y + 70)/10
⇒ x/2 = (3y + 70)/5
⇒ 5x = 6y + 140
Now,
(x – y) = 29
⇒ y = x – 29
Put the value in the equation we get,
⇒ 5x = 6x – 174 + 140
⇒ -x = (-34)

⇒ x = 34
(x – y) = 29
⇒ 34 – y = 29
⇒ y = 5
∴ The numbers is 34 and 5

16. Rahim invested a certain sum at 5% simple interest for 3 years. His friend Hiralal invested the same sum for 2 years at 7% simple interest. Rahim got Rs. 30 more interest than Hiralal. What was the amount invested by them?
a. Rs. 2,000.00
b. Rs. 3,000.00
c. Rs. 5,000.00
d. Rs. 7,000.00

Ans. b
Explanation:
Given:
R 1 = 5%
T 1 = 3 years
R 2 = 7%
T 2 = 2 years
Rahim got Rs. 30 more than Hiralal
Formula used:
SI = (P × R × T)/100
Calculation:
Let the Principal be x
Then,
According to the question
⇒ (x × 5 × 3)/100 – (x × 7 × 2)/100 = 30
⇒ 15x/100 – 14x/100 = 30
⇒ x/100 = 30
⇒ x = Rs. 3000
∴ The amount invested by them is Rs. 3,000

17. The first Indian flag to be hoisted on foreign soil was unfurled in _____ by Bhikaji Cama in 1907.
a. Germany

b. France
c. England
d. Russia

Ans. a
Explanation:
The correct answer isGermany.
On August 22, 1907, Madam Bhikaji Cama became the first person to hoist the Indian flag on foreign soil in Stuttgart in Germany. Hence, Option 1 is correct.

18. Identify the name of the traditional folk theatre form of Maharashtra.
a. Rasleela
b. Nautanki
c. Tamasha
d. Swang

Ans. c
Explanation:
The correct answer is Tamasha.
Folk theatre is popular in Maharashtra and it is known for its humour and erotic content. Hence, Option 3 is correct.

19. The present MD and CFO of the World Bank, Anshula Kant was earlier the MD of _____.
a. Oriental Bank of Commerce
b. Bank of Baroda
c. IndusInd Bank
d. SBI

Ans. d
Explanation
The correct answer isSBI.
The present MD and CFO of the World Bank, Anshula Kant was earlier the MD of SBI.

20. Who invented ‘www’ ?
a. Vint Cerf
b. Robert E. Kahn
c. Charles babbage
d. Tim Berners-Lee

Ans. d
Explanation:
The correct answer isTim Berner-Lee.
Tim Berner-Lee invented the World Wide Web in 1989. Hence, Option 4 is correct.

21. The floor of a hall measuring 16 meters in length and 12 meters in width is to be paved with square tiles. If the least number of tiles are to be used, then what is the length of each square tile?
a. 12 meters
b. 4 meters
c. 24 meters
d. 48 meters

Ans. b
Explanation:
Given:
Length of hall = 16 m
Breadth of hall = 12 m
Formula used:
Area of rectangle = length × breadth
Calculation:
Area of hall = (16 × 12) m 2
⇒ 192 m 2
Now,
LCM of 16 and 12 is 48
According to the question
Length of each square tile = (192/48) m
⇒ 4 m
∴ Required length is 4 meters

22. The Virupaksha temple at Hampi is dedicated to _____
a. Lord Ganesha
b. Lord Brahma
c. Lord Shiva
d. Lord Vishnu

Ans. c
Explanation:
The correct answer is Lord Shiva
The Virupaksha temple at Hampi is dedicated to Lord Shiva.

23. Which state in India has the highest coal reserves?
a. Chhattisgarh
b. Orissa
c. West Bengal
d. Jharkhand

Ans. d
Explanation:
The correct answer is Jharkhand
Jharkhand has the highest coal reserves in India.

24. Which one of the following is a nuclear research reactor operated by Bhabha Atomic Research Centre?
a. Shiva
b. Narayana
c. Dhruva
d. Vishnu

Ans. c
Explanation:
The correct answer is Dhruva.
The largest research reactor is the Dhruva at the Bhabha Atomic Research Centre (BARC) in Mumbai.

25. Who was responsible for introducing Enfield rifles that used the greased cartridges which became the immediate reason of 1857 revolt?

a. Henry Hardinge
b. Captain Hearsey
c. Francis Grant
d. Lord William Bentinck

Ans. a
Explanation:
The correct answer is Henry Hardinge.
Henry Hardinge was responsible for introducing Enfield rifles that used the greased cartridges which became the immediate reason of 1857 revolt.

26. The difference between the fractions 5 minutes of an hour and 20 seconds of an hour is:

a. $\frac{7}{12}$

b. $\frac{28}{270}$

c. $\frac{16}{180}$

d. $\frac{0.7}{9}$

Ans. d
Explanation:
Concept used:
1 min = 60 seconds
1 sec = 1/3600 hour
Calculation:
According to the question
⇒ (5 × 60)3600 – (20/3600)
⇒ (300/3600) – (20/3600)
⇒ 280/3600
⇒ 0.7/9
∴ The required answer is $\frac{0.7}{9}$

27. As of Nov 2020, who is the Chief Justice of India ?
a. Kurian Joseph
b. J Chelameswar

c. Deepak Mishra
d. S Arvind Bobde

Ans. d
Explanation:
The correct answer isS Arvind Bobde.

28. The difference between two numbers is 5. If 25 is subtracted from the smaller number and 20 is added to the greater number the ratio becomes 1 : 2. What is the greater number?
a. 80
b. 90
c. 85
d. 75

Ans. a
Explanation:
Given:
Difference between the two numbers = 5
Ratio If 25 is subtracted from the smaller number and 20 is added to the greater number = 1 : 2
Calculation:
Let the greater number and smaller number be x and (x – 5) respectively
Now, according to the question,
(x – 5 – 25) : (x + 20) = 1 : 2
⇒ (x – 30)/(x + 20) = 1/2
⇒ 2x – 60= x + 20
⇒ x = 80
∴ The greater number is 80

29. In an effort to provide a safe and secure e-payment option, RBI has launched _____
a. Vision 2022
b. Vision 2020
c. Vision 2021
d. Vision 2019

Ans. c
Explanation:
The correct answer is Vision 2021.
In an effort to provide a safe and secure e-payment option, RBI has launched Vision 2021.

30. Name the President of Confederation of Indian Industry (CII) for 2020-21.
a. Rakesh Bharti Mittal
b. Uday Kotak
c. Vikram Kirloskar
d. TV. Narendran

Ans. b
Explanation:
The correct answer isUday Kotak.
Uday Kotak
MD & CEO, Kotak Mahindra Bank, Uday Kotak has taken over as the President of Confederation of Indian Industry (CII) for the year 2020-21.
Hence, Option 2 is correct.

31. The product of any two even consecutive numbers is always divisible by
a. 12
b. 16
c. 8
d. 6

Ans. c
Explanation:
Concept:
Consecutive even numbers are 2, 4, 6, 8, 10, 12.....etc
Calculation:
The product of 2 & 4 = 8
The product of 4 & 6 = 8 × 3
The product of 6 & 8 = 8 × 6
The product of 8 & 10 = 8 × 10
The product of 10 & 12 = 8 × 15
∴ Clearly, the product of any two even consecutive numbers is always divisible by 8.

32. A drum of water is $\frac{3}{4}$ full. When 9 litres of water is drawn from it, it is $\frac{1}{2}$ full. What is the capacity of the drum?

a. 27 litres
b. 20 litres
c. 28 litres
d. 36 litres

Ans. d
Explanation:
Given:
Initially, drum was 3/4 full
After taking out 9 liters of water = Drum was 1/2 full
Calculation:
Let the capacity of drum be = y
As per the question;
3/4 × y - 1/2 × y = 9 liters
⇒ (3 - 2)y/4 = 9 liters
⇒ y/4 = 9 liters
⇒ y = 36 liters
∴ The capacity of drum is 36 liters.

33. Where was 11th WTO Ministerial Meeting organized?

a. Argentina
b. Switzerland
c. England
d. China

Ans. a
Explanation:
The correct answer is Argentina.
The Eleventh Ministerial Conference (MC11)took place from 10 to 13 December 2017 in Buenos Aires, Argentina.

34. Which country won the first ICC Men's T20 Cricket world cup title?

a. India
b. West Indies

c. England
d. Pakistan

Ans. a
Explanation:
The correct answer isIndia.
India won the first ICC Men's T20 Cricket World Cup title beating Pakistan in the final.

35. Which one of the following contains CFC?
a. Refrigerants
b. Varnish
c. Aerated drinks
d. Wall Paints

Ans. a
Explanation:
The correct answer isRefrigerants.
Chlorofluorocarbons (CFCs) are gases used for a variety of purposes, including solvents, refrigerants, and aerosol sprays.

36. Which Bollywood celebrity has collaborated with the famous American talk show host, David Letterman for Netflix?
a. Shahrukh Khan
b. Salman Khan
c. Anil Kapoor
d. Amitabh Bachchan

Ans. a
Explanation:
The correct answer isShahrukh Khan.
India's Shah Rukh Khan collaborates with veteran American talk show host David Letterman for Netflix.

37. Which two signs need to be interchanged to make the following equation correct?
3 + 3 × 3 - 3 ÷ 3 = 3

a. and +
b. + and ÷
c. + and ×
d. × and ÷

Ans. b
Explanation:
Given: 3 + 3 × 3 - 3 ÷ 3 = 3
By checking options and interchanging accordingly,
(1) - and +
LHS = 3 - 3 × 3 + 3 ÷ 3
= 3 - 3 × 3 + 1
= 3 - 9 + 1
= 4 - 9
= - 5
≠ 3
LHS ≠ RHS
(2) + and ÷
LHS = 3 ÷ 3 × 3 - 3 + 3
= 1 × 3 - 3 + 3
= 3 - 3 + 3
= 6 - 3
= 3
LHS = RHS
Hence, + and ÷ is the correct answer.

38. Which session of the congress led to the divide between extremists and moderates in 1907?
a. Calcutta
b. Surat
c. Madras
d. Bombay

Ans. b
Explanation:
The correct answer is Surat.

39. Which of the following is an example of non-infectious disease?
a. Pneumonia
b. High Blood Pressure
c. Influenza
d. Typhoid

Ans. b
Explanation:
The correct answer is High Blood Pressure.
High Blood Pressure is an example of non-infectious disease.

40. Three statements are given, followed by three conclusions I, II and III. You have to consider the statements to be true even if they seem to be at variance with commonly known facts and then decide which of the given conclusions logically follow(s) from the given statements.
Statements:
Some tigers are rats.
All rats are elephants.

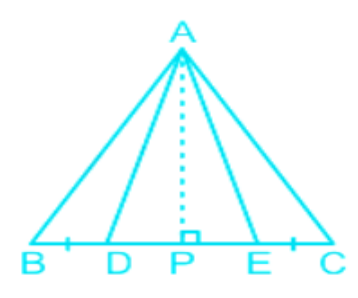
All tigers are cats.
Conclusions:
I. Some cats are elephants.
II. Some elephants are tigers.
III. Some cats are rats.
a. Only conclusions II and III follow.
b. All conclusions I, II and III follow.
c. Only conclusions I and II follow.
d. Only conclusions I and III follow

Ans. b
Explanation:
The least possible Venn diagram is:

Conclusions:
I. Some cats are elephants → True (as some part of tiger and rats are common for cats and elephants as shown in the diagram above)
II. Some elephants are tigers → True (as some tigers are cats and all rats are elephants, implies some part of rats that are tigers are elephants too)
III. Some cats are rats → True (as some tigers are cats and all tigers are cats, implies some part of rats that are tigers are cats too)
Hence, a ll conclusions I, II and III follow.

41. The area of triangle ABC is 39 cm^2 , D and E are two points on BC such that BD = DE = EC, then what is the area of triangle ADC?
a. 52 cm 2
b. 9/4 cm 2
c. 26 cm 2
d. 13 cm 2

Ans. c
Explanation:
Concept:
Two or more triangles on the same base and with the same height are equal in area.
Given:
Area of triangle ABC = 39 cm 2
D and E are two points on BC such that BD = DE = EC
Calculation:



Let AP as the perpendicular to BC, so AP is the height of triangle ABD, ADE, and AEC
Area of ABD = 1/2 × BD × AP
Area of ADE = 1/2 × DE × AP
Area of AEC = 1/2 × EC × AP
Ar (ABD) = Ar (ADE) = Ar (AEC)
∴ The area of triangle ADC = 2/3 × Area of triangle ABC
⇒ 2/3 × 39 cm 2
⇒ 26 cm 2

42. Three friends arranged a party. Tanveer paid $\frac{2}{3}$as much as Yusuf paid. Yusuf paid$\frac{1}{2}$ as much as Sachin paid. The fraction of the total expenditure by Yusuf was:

a.$\frac{7}{11}$

b.$\frac{5}{11}$

c.$\frac{3}{11}$

d.$\frac{2}{11}$

Ans. c
Explanation:
Let Sachin paid 'S'.
Then, according to question,
Yusuf paid =$\frac{1}{2}\times S$
And,
Tanveer paid =$\frac{2}{3}(\frac{1}{2}\times S)$
=$\frac{1}{3}\times S$

Thus, total contribution = S+$\frac{s}{2}$+$\frac{s}{3}$

Fraction of total expenditure by Yusuf =$\frac{\frac{s}{9}}{S+\frac{s}{2}+\frac{s}{3}}$

=$\frac{6}{2\times11}$

=$\frac{3}{11}$

Hence,$\frac{3}{11}$ is the correct answer.

43. Simplify

1.8+2$\times \frac{3}{2}\times \frac{1}{2}${$\frac{2}{5}\div (\frac{3}{5}\times \frac{2}{3})\times \frac{3}{2}-1$}

a. 1

b. 0.2

c. -1

d. 2.55

Ans. d

Explanation:

Given:

1.8+2$\times \frac{3}{2}\times \frac{1}{2}\{\frac{2}{5}\div (\frac{3}{5}\times \frac{2}{3})\times \frac{3}{2}-1\}$

Calculation:

1.8+2$\times \frac{3}{2}\times \frac{1}{2}\{\frac{2}{5}\div (\frac{3}{5}\times \frac{2}{3})\times \frac{3}{2}-1\}$

⇒1.8 + 2 × 3/2 × 1/2 { 2/5 ÷ (2/5) × 3/2 - 1}

⇒1.8 + 2 × 3/2 × 1/2 { 2/5 × 5/2 × 3/2 - 1}

⇒1.8 + 2 × 3/2 × 1/2 {3/2 - 1}

⇒1.8 + 2 × 3/2 × 1/2 × 1/2

⇒18/10 + 3/4

⇒9/5 + 3/4

⇒(9 × 4 + 3 × 5)/20

⇒(36 + 15)/20

⇒51/20

⇒ 2.55

∴ The required result is 2.55.

44. A guard observes an enemy boat, from an observation tower at a height of 180 meters above the sea level, to be at an angle of depression of 60°. What is the distance of the boat from the foot of the tower?

a. $\frac{60}{\sqrt{3}}$**m**

b. 30√3 m

c. 60√3 m

d. $\frac{30}{\sqrt{3}}$**m**

Ans. c

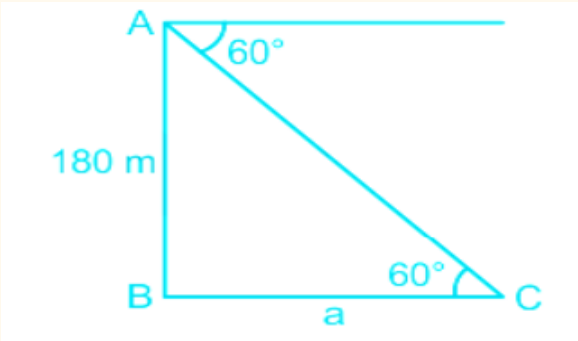
Explanation:

Given:

Height of the observation tower = 180 m

Angle of depression = 60°

Calculation:



In triangle ABC, AB/BC = tan 60°

⇒ 180/a = √3

⇒ √3a = 180

⇒ a = 180/√3 × √3/√3

⇒ a = 60√3

∴ The distance of the boat from the foot of the tower is 60√3 m.

45. Select the number from among the given options that can replace the question mark (?) in the following series.

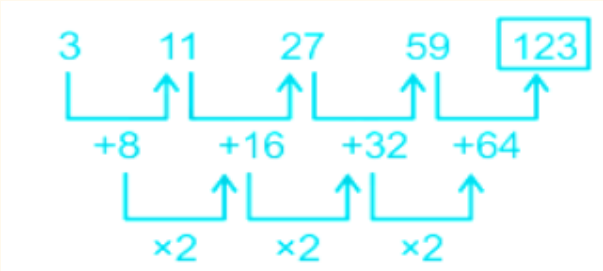
3, 11, 27, 59, ?

a. 123

b. 129

c. 121
d. 122

Ans. a
Explanation:
Given: 3, 11, 27, 59, ?
The logic followed here is:



Hence, 123 is the correct answer.

46. Find the approximate value of
$(2.697 + 0.498)^2 - (2.697 - 0.498)^2$
a. 2.00
b. 5.37
c. 2.199
d. 3.195

Ans. b
Explanation:
Given:
(2.697 + 0.498) 2 - (2.697 - 0.498) 2
Formula used:
a2 - b2 = (a - b)(a + b)
Calculation:
(2.697 + 0.498) 2 - (2.697 - 0.498) 2
⇒ (2.697 + 0.498 + 2.697 - 0.498)(2.697 + 0.498 - 2.697 + 0.498)
⇒ (5.394)(0.996)
⇒ 5.372424
∴ (2.697 + 0.498) 2 - (2.697 - 0.498) 2 = 5.37

47. Seven chocolates, A, B, C, D, E, F and G, are bought at different costs between Rs. 40 and Rs. 50 (excluding both Rs. 40 and Rs. 50) but not necessarily in the same order. The cost of chocolate C is Rs. 5 less than that of chocolate E. The cost of chocolate A is a prime number. The cost of chocolate F is Rs. 2 more than that of chocolate A. The cost of chocolate F is more than that of chocolate E. The cost of chocolate D is an odd number. The cost of chocolate G is Rs. 3 more than the cost of chocolate D. None of the chocolates cost Rs. 44. The cost of chocolate B is an even number. What is the cost of chocolate E?

a. Rs. 45

b. Rs. 47

c. Rs. 42

d. Rs. 46

Ans. d

Explanation:

Seven chocolates: A, B, C, D, E, F and G.

Cost: 41, 42, 43, 45, 46, 47, 48, and 49 (none of the chocolates cost Rs. 44)

(1) The cost of chocolate C is Rs. 5 less than that of chocolate E, implies C = E - 5.

(2) The cost of chocolate A is a prime number.

(3) The cost of chocolate F is Rs. 2 more than that of chocolate A, implies F = A + 2

Chocolates	Costs
A	41, 43, or 47
B	
C	43, 42, or 41
D	
E	48, 47, or 46
F	43, 45, or 49
G	

(4) The cost of chocolate F is more than that of chocolate E, implies F > E. Therefore, the cost of F is 49 and A is 47
(5) The cost of chocolate D is an odd number.
(6) The cost of chocolate G is Rs. 3 more than the cost of chocolate D, implies G = D + 3.
(7) The cost of chocolate B is an even number. Therefore, the final arrangement is as follows:

Chocolates	Costs
A	47
B	42
C	41
D	45
E	46
F	49
G	48

Hence, the cost of chocolate E is Rs. 46 .

48. 'Natyashastra' the famous treatise on dramatic art was written by _____

a. Bharata Muni
b. Harsha Vardhan
c. Vishnu Sharma
d. Kalidasa

Ans. a
Explanation:
The correct answer isBharata Muni.

Natyashastra is a Sanskrit treatise on the performing arts.The text is attributed to the sage Bharata Muni, and its first complete compilation dates to between 200 BCE and 200 CE, but estimates vary between 500 BCE and 500 CE.

49. Select the option that is related to the fourth number in the same way as the first number is related to the second number.
3 : 36 :: ? : 20736
a. 3456
b. 1728
c. 728
d. 81

Ans. b
Explanation:
Given: 3 : 36 :: ? : 20736
The logic followed here is:
3 : 36 → 3 × 12 = 36
Similarly,
? : 20736 → ? × 12 = 20736
? = 20736 ÷ 12
? = 1728
Hence, 1728 is the correct answer.

50. Find the value of
cos^2**(270-ϕ)-** sin^2 **(180 − 2 ϕ) +** $sin^2\frac{\pi}{2}sin^2$**(270-ϕ)**

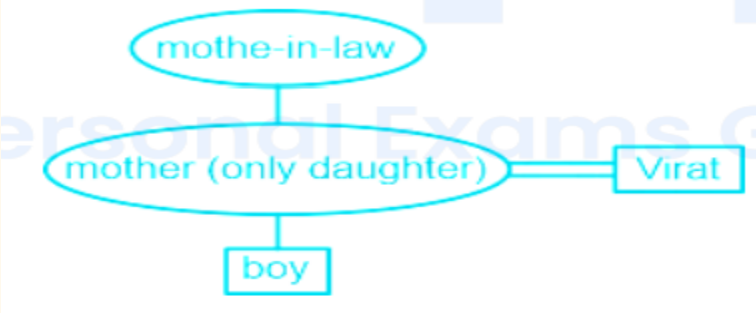
a.sin^2**(ϕ) - 1**
b. sin^2**(π/2)**
c. sin^2 **ϕ**
d. cos^2 **ϕ**

Ans. d
Explanation:
Given:
cos^2(270-ϕ)- sin^2 (180 − 2 ϕ) + $sin^2\frac{\pi}{2}sin^2$(270-ϕ)
Formulas used:

cos(270 - x) = - sin x
sin(180 - x) = sin x
sin(270 - x) = - cos x
Calculation:
cos^2(270-ϕ)- sin^2 (180 − 2 ϕ) + $sin^2\frac{\pi}{2}sin^2$(270-ϕ)
⇒ (- sinϕ)2- (sinϕ)2+ 1 × (- cosϕ)2
⇒ sin2ϕ - sin2ϕ + cos2ϕ
⇒ cos 2ϕ
∴ The required value is cos 2ϕ

51. Introducing a boy, Virat said, "His mother is the only daughter of my mother-in-law." How is the boy related to Virat?
a. Husband
b. Son
c. Brother
d. Uncle

Ans. b
His (boy's) mother is the only daughter of my mother-in-law, implies the mother of boy is the wife of Virat.
Therefore, the final family tree is as follows:



Hence, boy is the son of Virat.

52. At present the average age of 20 students of class ten is 15.5 years. The present age of the class teacher is 47 years. What will be the average age of the students and the class teacher after 5 years?
a. 21.8 years
b. 21.5 years

c. 22 years
d. 22.5 years

Ans. c
Explanation:
Given:
Average age of 20 students = 15.5 years
Present age of the class teacher = 47 years
Formula used:
Average age = Sum of the ages/No of persons
Calculation:
Sum of the present ages of 20 students = 15.5 × 20 = 310 years
Sum of the present ages of 20 students and the teacher = 310 + 47 = 357 years
Sum of the ages of 20 students and the teacher after 5 years = 357 + 21 × 5 = 462 years
∴ The average age of 20 students and the teacher = 462/21 = 22 years

53. A small text file created by a website that is stored in the user's computer temporarily for that session is called _____.
a. malware
b. bug
c. cookie
d. cache

Ans. c
Explanation:
The correct answer is cookie.
A cookie is a small text file (up to 4 KB) created by a website that is stored in the user's computer temporarily for only that session or permanently in storage.

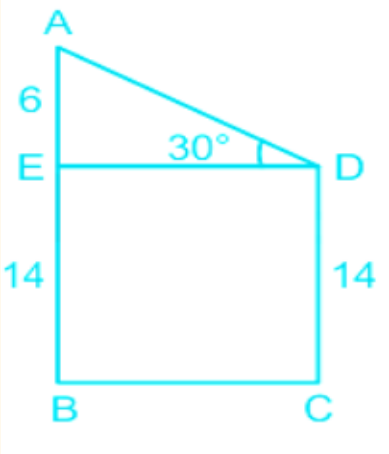
54. The first passenger train in India was operated between _____.
a. Bombay and Thane
b. Howrah and Hoogly
c. Royapuram and Wallajah Road
d. Roorkee and Piran Kaliyar

Ans. a

Explanation:
The correct answer isBombay and Thane
The first passenger train was on 16 April 1853 between Bori Bunder (Bombay) and Thane at a distance of 34 km.

55. Two poles of height 20 and 14 meters are joined at the top by a wire which makes an angle of 30° with the horizontal. The length of the wire is:
a. 10 m
b. 16 m
c. 14 m
d. 12 m

Ans. d
Explanation:
Given:
Height of one pole = 20 m
Height of another pole = 14 m
Angle made by the top of the poles with the horizontal = 30°
Calculation:



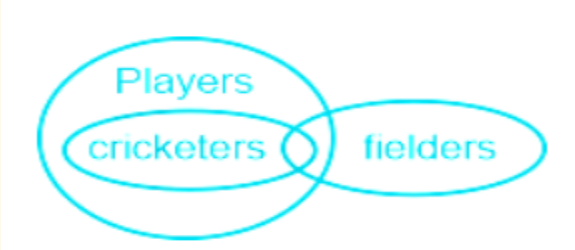
In triangle AED, AE/AD = sin 30°
⇒ 6/AD = 1/2
⇒ AD = 12 m
∴ The length of the wire is 12 m.

56. Which one of the following is a similarity between acids and bases?
a. Process of mixing acid or base with water is exothermic
b. They are used as preservatives
c. They are bitter
d. They have pH less than 7

Ans. a
Explanation:
The correct answer is Process of mixing acid or base with water is exothermic. When acid or base is added to water heat is liberated so the process is exothermic.

57. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.
Statements:
1: All cricketers are players.
2: Some cricketers are fielders.
Conclusions:
1: Some fielders are cricketers.
2: Some fielders are players.
a. Neither conclusion 1 nor 2 follow.
b. Only conclusion 2 follows
c. Only conclusion 1 follows
d. Both conclusions 1 and 2 follow

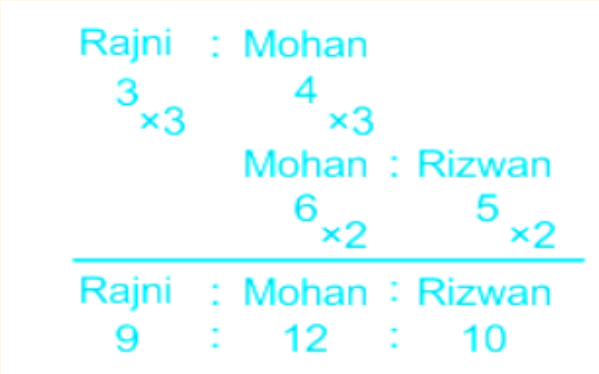
Ans. d
Explanation:
The least possible Venn diagram is:
Conclusions:



1: Some fielders are cricketers → True (as some cricketers are fielders)
2: Some fielders are players → True (as all cricketers are players and some cricketers are fielders, implies some some fielders that are cricketers are players too)
Hence, both conclusions 1 and 2 follow.

58. Rajni can do 25% less work than Mohan and Mohan can do 20% more work than Rizwan. At the end of the completion of the work, what will be Mohan's share out of the profit of Rs. 930 ?
a. Rs. 360
b. Rs. 260
c. Rs. 350
d. Rs. 300

Ans. a
Explanation:
Given:
Rajni can do 25% less work than Mohan.
Mohan can do 20% more work than Rizwan.
Total profit = Rs.930
Concept:
Ratio of the shares of profit = Ratio of the efficiency
Calculation:
Ratio of the efficiency of Rajni & Mohan = 75% : 100%
⇒ Rajni : Mohan = 3 : 4 (1)
Ratio of the efficiency of Mohan & Rizwan = 120% : 100%
⇒ Mohan : Rizwan = 6 : 5 (2)
By multiplying equation (1) by 3 and equation (2) by 2;



The ratio of profit distribution:
Rajni : Mohan : Rizwan
9 : 12 : 10
∴ Mohan's share = Rs.930 × 12/31
⇒ Rs.360

59. Which article of the Indian constitution grants the right to equal opportunity in public employment ?
a. Article 15
b. Article 13
c. Article 14
d. Article 16

Ans. d
Explanation:
The correct answer is Article 16.
Article 16 of the Indian constitution grants the right to equal opportunity in public employment.

60. Glucose molecule breaks down into _____.
a. pyruvic acid
b. lactic acid
c. cytoplasm
d. mitochondria

Ans. a
Explanation:
The correct answer is pyruvic acid.
Glucose molecule breaks down into pyruvic acid.

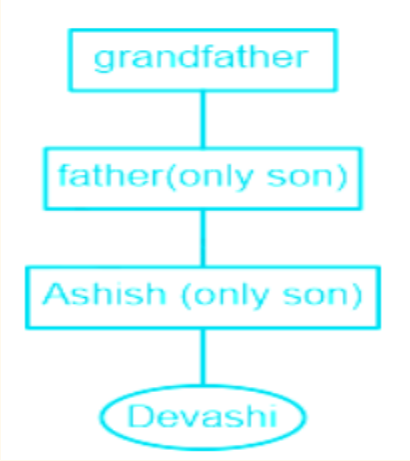
61. In a school the ratio of the number of boys and girls is 5 : 6, 20% boys and 25% girls are scholarship holders. How many students did not get a scholarship ?
a. $(\frac{950}{11})\%$
b. $(\frac{850}{11})\%$
c. $(\frac{8000}{11})\%$

d.$(\frac{750}{11})$%

Ans. b
Explanation:
Given:
The ratio of the number of boys and girls in a school = 5 : 6
Percentage of boys who are scholarship holders = 20%
Percentage of girls who are scholarship holders = 25%
Calculation:
Let the number of boys & girls be 5a and 6a respectively.
No of scholarship holder boys = 5a × 20/100 = 1a
No of scholarship holder girls = 6a × 25/100 = 1.5a
Number of students who did not get a scholarship = 11a - (1a + 1.5a) = 8.5a
∴ Percentage of students who got scholarship = 8.5a/11a × 100
⇒ 8.5a/11 × 100
⇒ 85/110 × 100
⇒ (850/11)%
Let the number of boys and girls be 50 and 60 respectively.

62. Introducing Deveshi to the guests, Ashish said, "Her father is the only son of my paternal grandfather's only son". How is Ashish related to Deveshi ?
a. Maternal uncle
b. Father
c. Brother
d. Grandfather

Ans. b
Explanation:
From the given information,
Her (Deveshi's) father is the only son of my (Ashish's) paternal grandfather's only son, implies Ashish is father of Deveshi. Thus, the final family tree is as follows:



Hence, Ashish is the father of Deveshi.

63. Which of the following medicinal plant can be used to treat blood pressure?
a. Sarpagandha
b. Babool
c. Jamun
d. Tulsi

Ans. a
Explanation:
The correct answer isSarpagandha.
Sarpagandha is used for the treatment of high blood pressure, insomnia, asthma, acute stomach ache and painful delivery and for mental illnesses such as neuropsychiatric disorders, psychosis, and schizophrenia.

64. Which of the following is one of the founding countries of ASEAN?
a. India
b. Malaysia
c. Cambodia
d. Australia

Ans. b
Explanation:

The correct answer is Malaysia.
The Founding countries of ASEAN: Indonesia, Malaysia, Philippines, Singapore and Thailand.

65. Which Indian state has the highest power generation capacity from thermal energy?
a. Uttar Pradesh
b. Maharashtra
c. Andhra Pradesh
d. Gujrat

Ans. b
Explanation:
The correct answer isMaharashtra.
As of 30 June 2021 Maharashtra installed power generation capacity is 28,173 MW.

66. If × means +, ÷ means -, + means × and - means ÷, then what will be the value of the following expression?
40 × 20 ÷ 28 - 4 + 2
a. 46
b. 45
c. 64
d. 54

Ans. a
Explanation:
Given: 40 × 20 ÷ 28 - 4 + 2
By inserting codes and then using BODMAS Rule:
40 + 20 - 28 ÷ 4× 2
= 40 + 20 -7 × 2
=40 + 20 - 14
= 60 - 14
= 46
Hence, 46 is the correct answer

67. Two numbers are in the ratio 19 : 17. Their HCF is 11. Find the numbers.
a. 221, 247
b. 1700, 1900
c. 209, 187
d. 190, 170

Ans. c
Explanation:
Given:
Ratio of two numbers = 19 : 17
HCF = 11
Concept:
HCF = Highest Common Multiple
Calculation:
Let the numbers be 19h and 17h respectively, where h is the HCF.
⇒ 19h = 19 × 11 = 209
⇒ 17h = 17 × 11 = 187
∴ The numbers are 209 and 187.

68. In India, river dolphins are found in _____ river
a. Godavari
b. Ghaghara
c. Luni
d. Krishna

Ans. b
Explanation:
The correct answer isGhaghara.
An extensive census of about 1,000 km of the Ganges and its two tributaries, the Gandak and the Ghaghra Rivers in Bihar has found about 1,150 Ganges dolphins.

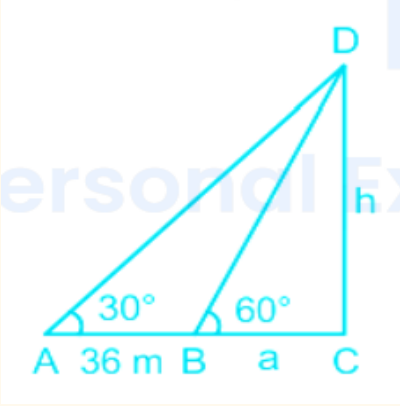
69. Which corporate organization has signed an MoU to plant Rudraksha trees in Uttarakhand as part of their Corporate Social Responsibility under "Namami Gange Programme" in 2019?
a. Infosys
b. HCL Foundation

c. Wipro
d. IBM

Ans. b
Explanation:
The correct answer isHCL Foundation.
NMCG has signed a Memorandum of Understanding (MoU) with INTACH and HCL Foundation to undertake a project of 'Plantation of 10000 Rudraksha Trees in Uttarakhand'.

70. A man standing on the banks of a river observes that the angle subtended by a tree on the opposite bank is 60°. He walks 36 meters backward on the bank and observes the angle to be 30°. What is the breadth of the river?
a. 10 meters
b. 20 meters
c. 18 meters
d. 28 meters

Ans. c
Explanation:
Given:
Angle subtended by the tree on the opposite bank = 60°
Angle subtended by the tree 36 m backward from the bank = 30°
Calculation:



Let the height of the tree be = h
Let the breadth of the river be = a

In triangle BCD, CD/BC = tan 60°
⇒ h/a = √3
⇒ a = h/√3 .....(1)
In triangle ACD, CD/AC = tan 30°
⇒ h/(36 + a) = 1/√3
⇒ √3h = 36 + a
⇒ a = √3h - 36 .....(2)
By comparing (1) and (2), we get
⇒ h/√3 = √3h - 36
⇒ h = 3h - 36√3
⇒ 2h = 36√3
⇒ h = 18√3 m
By putting the value of h = 18√3 m in equation (1)
⇒ a = 18√3/√3
⇒ a = 18 m
∴ The breadth of the river is 18 m.

71. Which of the following buildings was designed by F.W. Stevens?
a. Horniman Circle (Formerly Elphinstone Circle)
b. Bombay Secretariat
c. The Town Hall, Bombay
d. Chatrapati Shivaji Maharaj Terminus (Formerly Victoria Terminus)

Ans. d
Explanation:
The correct answer is Chatrapati Shivaji Maharaj Terminus (Formerly Victoria Terminus)
Chatrapati Shivaji Maharaj Terminus (formerly Victoria Terminus)designed by the British architect F.W. Stevens, became the symbol of Bombay as the Gothic City and the major international mercantile port of India.

72. Two angles of a triangle are in the ratio 1 : 2 and the sum of these angles is equal to the third angle. What is the measure of the smallest angle?
a. 25°
b. 30°
c. 20°
d. 40°

Ans. b
Explanation:
Given:
Ratio of the two angles of a triangle = 1 : 2
Value of the third angle = Sum of the rest of two angles
Concept:
The sum of all the three angles of a triangle is 180°.
Calculation:
Let the two angles be = 1y and 2y
As per the question; 1y + 2y = 3y
y + 2y + 3y = 180°
⇒ 6y = 180°
⇒ y = 30°
∴ The smallest angle is 30°

73. A student takes 1.5 hours from home to school at a speed of 5 km/h. By what percent should he increase his speed to reduce the time by 20% and cover the same distance from school to home?
a. 15%
b. 25%
c. 16%
d. 20%

Ans. b
Explanation:
Given:
Time taken by the student to travel from home to school at 5 km/h = 1.5 hours
Formula used:
Distance = Time × Speed
Calculation:
Distance between home and school = 1.5 × 5 = 7.5 km
New Time = 1.5 × 80/100 = 1.2 hours
New Speed = 7.5/1.2 = 6.25 km/h
⇒ Old Speed : New Speed = 5 : 6.25
⇒ 4 : 5
Increase in the speed = 5 - 4 = 1

∴ Percentage increase in the speed = 1/4 × 100 = 25%

74. In an election, there were only two candidates. The losing candidate got 48% of the total votes. His opponent got 6000 votes more and won by a margin of 3% votes. What was the number of invalid votes?
a. 2000
b. 6000
c. 3000
d. 3200

Ans. a
Explanation:
Given:
Votes got by losing candidate = 48% of the total votes
The opponent got 6000 votes more and won by a margin of 3% votes
Calculation:
Let the total votes be = 100%
3% votes = 6000
Votes received by losing candidate = 48%
Votes received by winning candidate = 48% + 3% = 51%
Invalid votes = 100% - 48% - 51% = 100% - 99% = 1%
⇒ 3% = 6000 votes
∴ 1% of total votes = 6000/3 = 2000

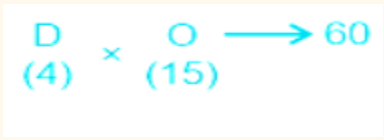
75. If -5 is a root of the quadratic equation $2x^2$ + px - 15 = 0 and also of the quadratic equation p(kx^2 + x) = 0, then what are the values of p and k?
a. 7, 0.2
b. -7, 0.4
c. 7, -0.2
d. -7, -0.2

Ans. a
Explanation:
Given:
Root of equations 2x 2 + px - 15 = 0 & p(kx 2 + x) = 0 is - 5
Calculation:
By putting x = - 5 in 2x 2 + px - 15 = 0

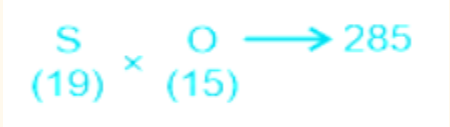
⇒ 2(- 5)2 + p × - 5 - 15 = 0
⇒ 50 - 5p - 15 = 0
⇒ - 5p = - 35
∴ p = 7
By putting x = - 5 and p = 7 in equation p(kx 2 + x) = 0
⇒ 7[k × (- 5)2 + (- 5)] = 0
⇒ 7[25k - 5] = 0
⇒ 25k - 5 = 0
⇒ k = 5/25
⇒ k = 1/5
∴ k = 0.2
Hence, the values of p = 7 and k = 0.2.

76. If DO is coded as 60 and SO is coded as 285, then which of the following will be the code for RED?
a. 27
b. 299
c. 94
d. 360

Ans. d
Explanation:
Given: DO is coded as 60 and SO is coded as 285.
The logic followed here is:
Product of positional values as shown below,



And,



Similarly,

Hence, 360 is the correct answer

77. A question and two statements are given. Identify which of the statements is/are sufficient to answer the question.
Question:
On which date is Evanshu's birthday?

Statements:
1: Evanshu's birthday is on the Republic Day of a country.
2: The country's national flag is a tri-colour flag with an Ashoka Chakra in its centre.
a. Both statements 1 and 2 are sufficient together
b. Both statements 1 and 2 are sufficient independently
c. Statement 1 is sufficient but statement 2 is not sufficient.
d. Statement 2 is sufficient but statement 1 is not sufficient

Ans. a
Explanation:
On which date is Evanshu's birthday.
By using Statement 1:
Evanshu's birthday is on the Republic Day of a country.
From This we don't know republic day of which country so, we can not find the birth date of Evanshu using statement 2 alone.
By using Statement 2:
The country's national flag is a tricolor flag with an Ashoka Chakra in its center.
So, we can not find the birth date of Evanshu using statement 2 alone.
Thus statement I and II together:
We know that the national flag of India is a tricolor flag with an Ashoka Chakra in its center and the Republic Day in India, i.e., on 26th January.
So, we can say that Evanshu's birthday is on 26thJanuary.
Hence, Both statements 1 and 2 are sufficient together.

78. The speed of a boat in still water is 15 km/h. The speed of the current is 3 km/h. The difference between the time taken for upstream and

downstream to complete two trips (i.e., from one end to the other coming back and repeating the same again) is 10 minutes. What is the distance between the two ends?
a. 2.5 km
b. 2 km
c. 3 km
d. 3.5 km

Ans. c
Explanation:
Given:
Speed of boat in still water = 15 km/h
Speed of the current = 3 km/h
Formulas used:
Speed upstream = (Speed of the boat - Speed of the current)
Speed downstream = (Speed of the boat + Speed of the current)
Time = Distance/Speed
Calculation:
Speed upstream = 15 - 3 = 12 km/h
Speed downstream = 15 + 3 = 18 km/h
Let the distance be = D
As per the question;
For two trip,
2(D/12 - D/18) = 10/60
⇒ 2(3D - 2D)/36 = 1/6
⇒ 2D/36 = 1/6
⇒ D = 3
∴ The distance between the two ends is 3 km

79. The price of sugar increased by 10%. A family of 5 members did not want to increase their expenditure. What is the percentage reduction in their consumption of sugar?
a. 12
b. $9\frac{1}{11}$
c. 10
d. 8

Ans. b
Explanation:
Given:
Increase percent in the price of sugar = 10%
Formulas used:
Expenditure = Price × Quantity
Percentage reduction in quantity = (Old quantity - New Quantity)/Old Quantity × 100
Calculation:
Let the price of sugar be = 100a
Increased price = 100a × 110/100 = 110a
Let the quantity of sugar purchased = 10
Old Expenditure = 100a × 10 = 1000a
The family wants to keep their expenditure unchanged.
So, New Expenditure = 1000a = 110a × New Quantity
⇒ New Quantity = 1000a/110a = 100/11
∴ Percentage reduction in quantity = (10 - 100/11)/10 × 100
⇒ (110 - 100)/(11× 10) × 100
⇒ 100/11%
⇒$9\frac{1}{11}$ %

80. A sum of money becomes Rs.10648 after 3 years and Rs.9680 after 2 years of compound interest computed yearly. What is the rate of interest?
a. 9%
b. 8%
c. 10%
d. 12%

Ans. c
Explanation:
Given:
Amount after 3 years at compound interest = Rs.10648
Amount after 2 years at compound interest = Rs.9680
Formula used:
Rate = (Interest × 100)/Principal × Time
Calculation:
Rs.9680 becomes Rs.10648 in one year
⇒ (10648 - 9680) = Interest on Rs.9680

⇒ 968 = Interest on Rs.9680
∴ Rate = (968 × 100)/9680 × 1 = 10%

81. When is National Science Day celebrated in India?
a. 19th February
b. 21st March
c. 20th January
d. 28th February

Ans. d
Explanation:
The correct answer is 28th February.
National Science Day (NSD) is celebrated every year on 28 February.

82. Six persons - Seema, Vaibhav, Ajay, Manisha, Tulika and Ananya - were born in six different states, namely Assam, Gujarat, Madhya Pradesh, Punjab, Bihar and Rajasthan, but not necessarily in the same order. They all play six different games, namely Chess, Football, Hockey, Ludo, Badminton and Cricket, but not necessarily in the same order. Ananya was born in Gujarat and she plays Cricket. Ajay does not play Chess or Ludo. The person who was born in Bihar plays Football. Seema plays Hockey and she was not born in Assam or Madhya Pradesh. Manisha was born in Rajasthan and she plays badminton.
Identify the state in which Ajay was born?
a. Assam
b. Bihar
c. Madhya Pradesh
d. Punjab

Ans. b
Explanation:
Six persons - Seema, Vaibhav, Ajay, Manisha, Tulika and Ananya.
States - Assam, Gujarat, Madhya Pradesh, Punjab, Bihar and Rajasthan.
Games - Chess, Football, Hockey, Ludo, Badminton and Cricket.
(1) Ananya was born in Gujarat and she plays Cricket.
(2) The person who was born in Bihar plays Football.
(3) Seema plays Hockey and she was not born in Assam or Madhya Pradesh.

Therefore she was born in Punjab,
(4) Manisha was born in Rajasthan and she plays badminton.

Person	State	Game
Ananya	Gujarat	Cricket
	Bihar	Football
Seema	Punjab	Hockey
Manisha	Rajasthan	Badminton
		Ludo
		Chess

(5) Ajay does not play Chess or Ludo. Therefore, he plays football

Person	State	Game
Ananya	Gujarat	Cricket
Ajay	Bihar	Football
Seema	Punjab	Hockey
Manisha	Rajasthan	Badminton
Tulika / Vaibhav	Assam/Madhya Pradesh	Ludo
Tulika / Vaibhav	Assam/Madhya Pradesh	Chess

Hence, Ajay was born in Bihar.

83. Jon Beel Mela is the only fair in India where barter system is still used. In which state does it take place?
a. Tripura
b. Assam
c. Nagaland

d. Manipur

Ans. b
Explanation:
The correct answer is Assam
The Jonbeel Mela usually takes place a few days after Magh Bihu, the harvest festival, in Dayang Belguri in Morigaon district in Assam.

84. Name the mission ISRO has conceived to study the sun.
a. Aditya L1
b. Exoworld
c. Exposat
d. Suraj

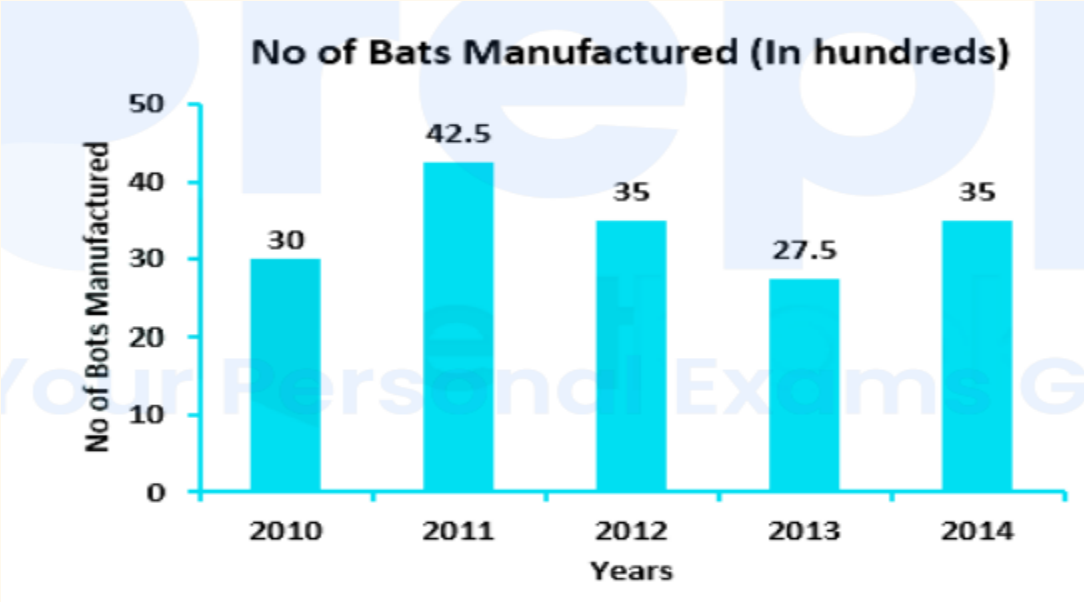
Ans. a
Explanation:
The correct answer isAditya L1.
Aditya L1 is India's first scientific expedition to study the Sun.

85. The diagonal of a square is $\sqrt{200}$cm. If the length and breadth of a rectangle are in the ratio 5 : 2, which is the same as the area of the square, then what is the length of the rectangle?
a.$\sqrt{250}$ cm
b.$\sqrt{200}$cm
c.2$\sqrt{10}$cm
d.$\sqrt{20}$cm

Ans. a
Explanation:
Given:
Diagonal of square = $\sqrt{200}$ cm
Ratio of the sides of rectangle = 5 : 2
Area of rectangle = Area of square
Formulas used:
Diagonal of square = √2 × Side
Area of square = (Side)2

Area of rectangle = Length × Breadth
Calculation:
Diagonal of square =$\sqrt{200}$
⇒ √2 × Side = 10√2
⇒ Side = 10 cm
Let the sides of the rectangle be 5b & 2b respectively.
Area of square = Area of rectangle
⇒ 10 × 10 = 5b × 2b
⇒ b2 = 100/10 = 10
⇒ b = √10
∴ The length of rectangle = 5b = 5 × √10
⇒ √250 cm

86. The following graph shows the number (in hundreds) of bats manufactured by a factory in Meerut over the period of 2010 to 2014.

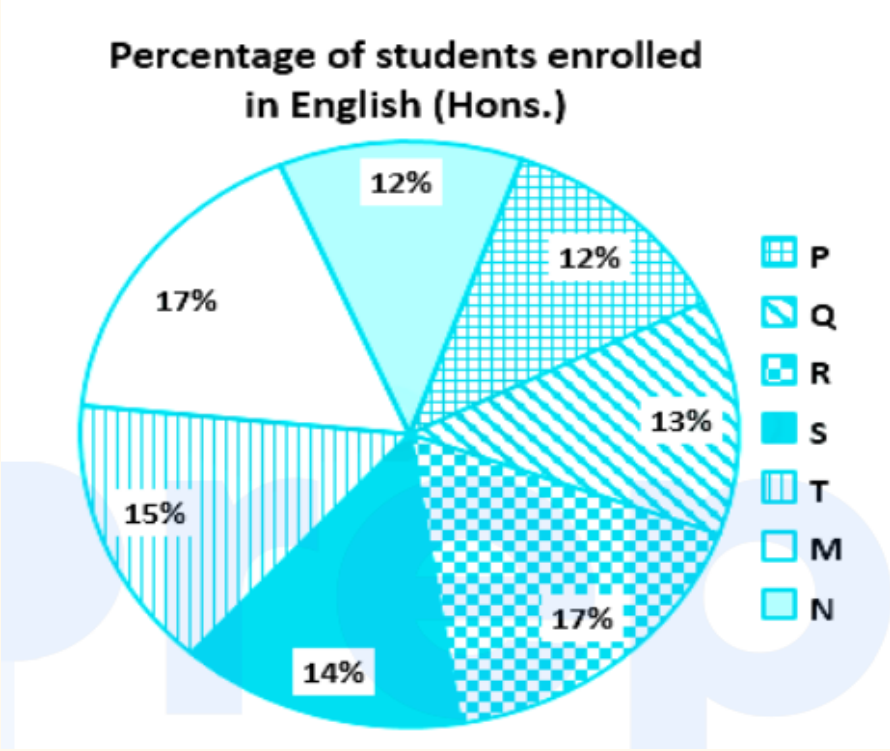


What is the average number of bats manufactured during 2010 to 2014 ?
a. 3450
b. 3655
c. 3600
d. 3400

Ans. d
Explanation:

Given:
No of bats manufactured in 2010 = 30
No of bats manufactured in 2011 = 42.5
No of bats manufactured in 2012 = 35
No of bats manufactured in 2013 = 27.5
No of bats manufactured in 2014 = 35
Formula used:
Average bats manufactured over the years = Total number of bats/ No of years
Calculation:
Average bats manufactured over 5 years = (30 + 42.5 + 35 + 27.5 + 35)/5
⇒ 170/5 = 34 in hundread
⇒ 3400

87. The following pie chart shows the distribution of students enrolled in an English (Hons.) course in seven different colleges (P, Q, R, S, T, M and N) of a University.



If the total number of students enrolled in the English (Hons.) course from all the seven colleges is 2800, then how many students from colleges M and S are enrolled in the course?

a. 752
b. 940
c. 868
d. 913

Ans. c
Explanation:
Given:
Total number of students enrolled in English (Hons) course = 2800
Formula used:
No of students in the English (Hons) course = Total students × Percentage of the students enrolled
Calculation:
Percentage of students enrolled in college M = 17%
Percentage of students enrolled in college S = 14%
∴ No of students enrolled from college M and S = 2800 × (17% + 14%)
⇒ 2800 × 31/100 = 868

88. The given table shows the number of people who joined four different gyms in Delhi during 2014 to 2018.

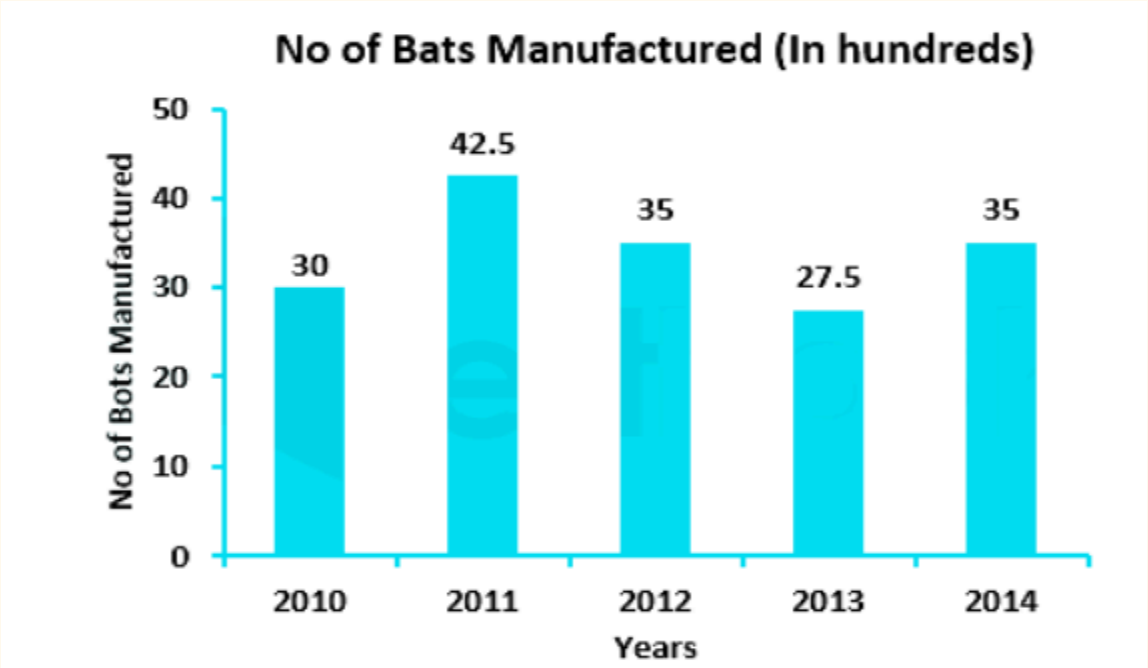
GYM → YEAR↓	A	B	C	D
2014	190	113	95	176
2015	210	227	310	277
2016	183	161	191	239
2017	169	117	225	196
2018	278	269	213	293

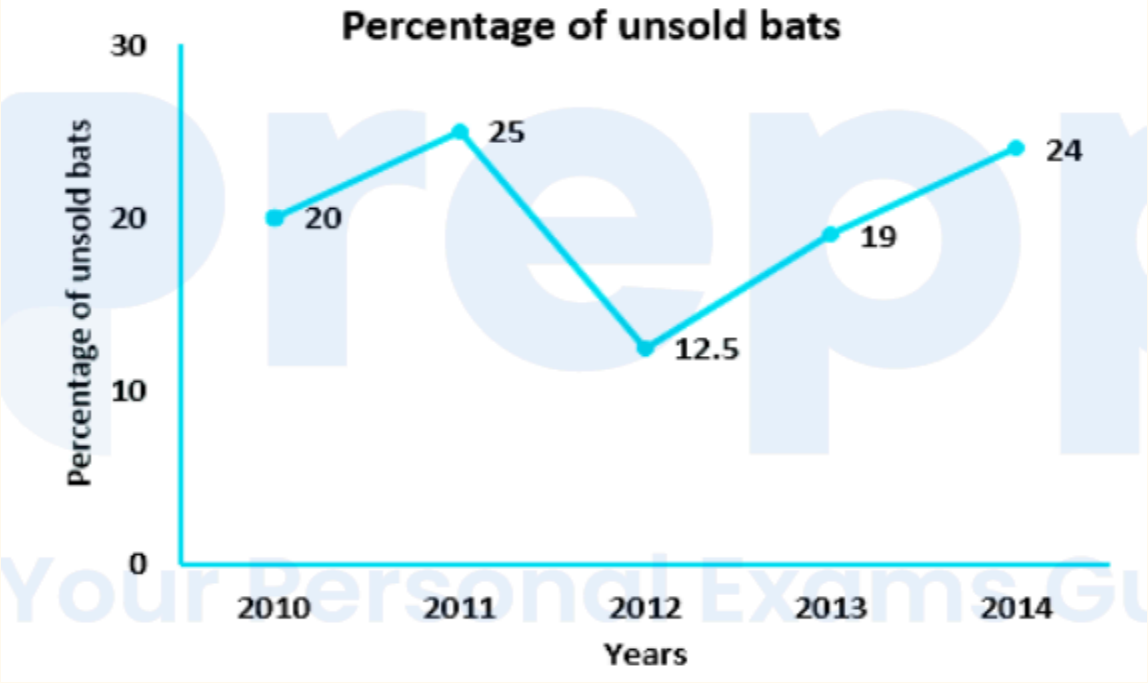
By what approximate percentage is the number of people who joined gym A in 2018 greater than that who joined gym D in 2016?
a. 16
b. 14
c. 10
d. 12

Ans. a
Explanation:
Given:
No of people who joined gym A in 2018 = 278
No of people who joined gym D in 2016 = 239
Calculation:
Difference between the people who joined gym A in 2018 and 2016 = 278 - 239 = 39
∴ The required percentage = 39/239 × 100 = 16.31%
⇒ 16% (Approximately)

89. The given graph shows the number (in hundreds) of bats manufactured and the following line graph shows the percentage of unsold bats by a

factory in Meerut over the period of 2010 to 2014.





What is the difference between the number of bats sold in the year 2010 and year 2014?

a. 240

b. 500

c. 200
d. 260

Ans. d
Explanation:
Given:
No of bats manufactured in 2010 = 3000
Percentage of unsold bats in 2010 = 20%
No of bats manufactured in 2014 = 3500
Percentage of unsold bats in 2014 = 24%
Calculation:
No of sold bats in 2010 = (100 - 20)% × 3000
⇒ 80/100 × 3000
⇒ 2400
No of sold bats in 2014 = (100 - 24)% × 3500
⇒ 76/100 × 3500 = 2660
∴ The difference between the number of bats sold in 2014 and 2010
⇒ 2660 - 2400
⇒ 260

90. Consider the given statement and decide which of the given assumptions is/are implicit in the statement.
Statement:
In the last year, Pune University has launched a number of vocational courses for the better future of students.
Assumptions:
A. Pune University believes that vocational education provides a better future for students.
B. Pune University is conscious about the future of students.
a. Only assumption B is implicit.
b. Neither assumption A nor B is implicit
c. Both assumptions A and B are implicit.
d. Only assumption A is implicit

Ans. c
Explanation:
Assumptions:

A. Pune University believes that vocational education provides a better future for students → Implicit (as it is given in the statement that vocational courses are launched for the better future of students)
B. Pune University is conscious about the future of students → Implicit (as it is given in the statement that Pune University has launched a number of vocational courses for the better future of students, so we can assume that they are conscious about the future of students)
Hence, both assumptions A and B are implicit.

91. A question and two statements are given. Identify which of the statements is/are sufficient to answer the question.
Question:
Find the area of the equilateral triangle.
Statements:
1: The measure of one of the sides of the triangle side is 7 cm.
2: The perimeter of the triangle is 21 cm.
a. Both statements 1 and 2 are sufficient independently
b. Statement 1 is sufficient but statement 2 is not sufficient.
c. Neither statement 1 nor 2 is sufficient independently.
d. Statement 2 is sufficient but statement 1 is not sufficient

Ans. a
Explanation:
By using statement 1:
The measure of one of the sides of the triangle side is 7 cm.
We know that the triangle is equilateral, therefore, the area of triangle can be determined using formula:
$\frac{\sqrt{3}}{4} \times (7)^2 = 49\frac{\sqrt{3}}{4}\ cm^2$
Therefore, statement 1 alone is sufficient.
By using statement 2:
The perimeter of the triangle is 21 cm.
We know that the triangle is equilateral, therefore,
Perimeter = 3 × side
Side = 21 ÷ 3
Side = 7 cm
Area of triangle $= \frac{\sqrt{3}}{4} \times (7)^2 = 49\frac{\sqrt{3}}{4}\ cm^2$

Therefore, statement 2 alone is sufficient.
Hence, both statements 1 and 2 are sufficient independently

92. Letters of a word are jumbled and each letter has been given a unique number. Select the combination of numbers from among the given options, so that the letters arranged accordingly will form the meaningful word.
R A M S T
1 2 3 4 5
a. 32514
b. 13245
c. 25431
d. 43215

Ans. d
Explanation:
Given :
R A M S T
1 2 3 4 5
By checking options:
(1) 32514 → MATRS
(2) 13245 → RMAST
(3) 25431 → ATSMR
(4) 43215 → SMART
Only option (4) 43215 forms the meaning word i.e., SMART.
Hence, 43215 is the correct order.

93. If p + q implies p - q, p - q implies p × q, p × q implies p ÷ q and p ÷ q implies p + q, then find the value of
5 + 6 - 75 × 15 ÷ 30
a. 5
b. 0
c. -5
d. 10

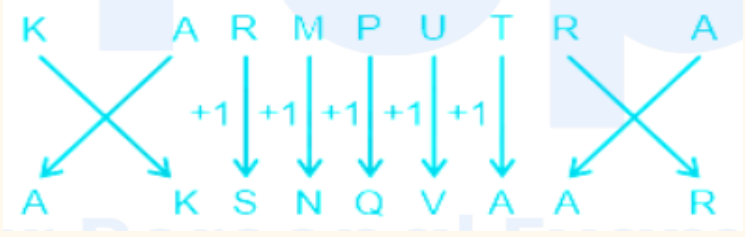
Ans. a
Explanation:

Given: 5 + 6 - 75 × 15 ÷ 30
The logic follows here is:
By inserting codes and then using BODMAS Rule:
5 - 6 × 75 ÷ 15 + 30
= 5 - 6 × 5 + 30
= 5 - 30 + 30
= 35 - 30
= 5
Hence, 5 is the correct answer.

94. In a certain language, ABHIMANYU is written as BAIJNBOUY. How will KARMPUTRA be written as in that language?
a. AKSNQVUAR
b. ABRNVUTAR
c. ABRNQVUSR
d. AKSPMTUSB

Ans. a
Explanation:
Given: ABHIMANYU is written as BAIJNBOUY.
The logic followed here is:

Similarly,



Hence, AKSNQVUAR is the correct answer.

95. Read the given statements and conclusions carefully and decide which of the conclusions logically follow(s) from the statements.
Statements:
John is a renowned sportsperson.
All renowned sportspersons are fit and active.
John earns a large amount every year through advertisements of various products.
Conclusions:
A. All renowned sportspersons earn large amount through advertisements.
B. John is fit and active.
C. John being popular advertises only famous products.
a. Only conclusion B follows
b. Both conclusions A and C follow
c. Only conclusion C follows
d. Both conclusions A and B follow

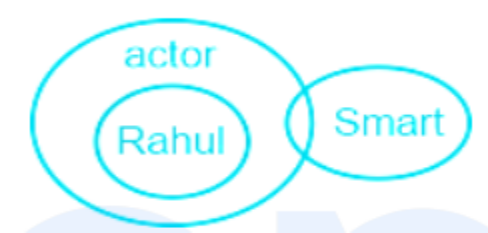
Ans. a
Explanation:
Conclusions:
A. All renowned sportspersons earn large amount through advertisements → False (it is possible but not definite as John is a renowned sportsperson and he earns a large amount every year through advertisements of various products but it is not applicable for all)
B. John is fit and active → True (as john is a renowned sportsperson and all renowned sportspersons are fit and active, implies John is fit and fine too)
C. John being popular advertises only famous products → False (no mention of famous products, so can't say)
Hence, only conclusion B follows

96. Select the option that is related to the third word in the same way as the second word is related to the first word.
Painter : Brush :: Author : ?
a. Book
b. Story
c. Words
d. Pen

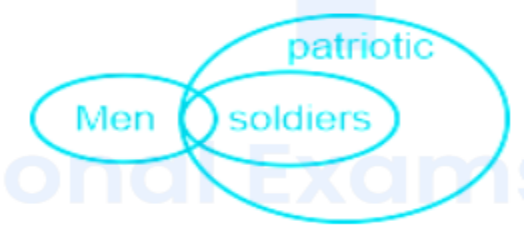
Ans. d
Explanation:
Given: Painter : Brush :: Author : ?
The logic followed here is:
Painter uses Brush to paint.
Similarly,
Author uses Pen to write.
Hence, pen is the correct answer.

97. Read the following set of statements, A, B, C, D and select the set/s in which the third statement is a logical conclusion of the first two.
A. Rahul is an actor. Some actors are smart. Rahul is smart.
B. Some men are soldiers. All soldiers are patriotic. Some men are patriotic.
C. All cricketers are athletes. Some cricketers are famous. All athletes are famous.
D. All actors are handsome. Aman is not an actor. Aman is not handsome.
a. Only A, B and C
b. Only B
c. Only D and B
d. Only D

Ans. b
Explanation:
By checking all the statements:
A. Rahul is an actor. Some actors are smart. The least possible Venn diagram is:

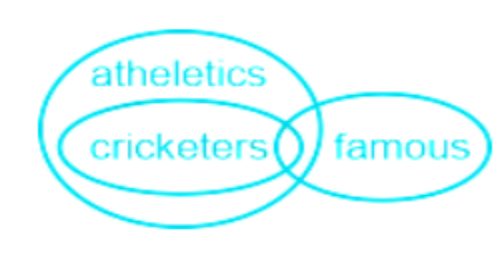


Conclusion: Rahul is smart → False (it is possible but not definite as shown in the figure above)
B. Some men are soldiers. All soldiers are patriotic. The least possible Venn diagram is:



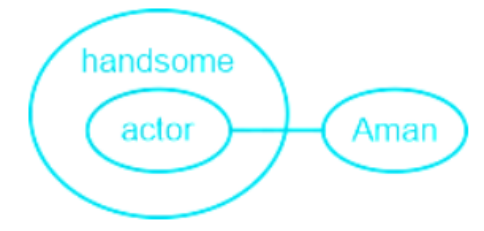
Conclusion: Some men are patriotic → True (as some men who are soldiers are patriotic too)

C. All cricketers are athletes. Some cricketers are famous. The least possible Venn diagram is:



Conclusion: All athletes are famous → False (it is possible but not definite as shown in the figure above)

D. All actors are handsome. Aman is not an actor. The least possible Venn diagram is:



Conclusion: Aman is not handsome → False (it is possible as shown in diagram above but not definite as Aman is not an actor but he can be handsome)

Hence, only B is correct.

98. In a certain code language, MINIATURE is written as 495912395. How will PRIVATE be written as in that language?

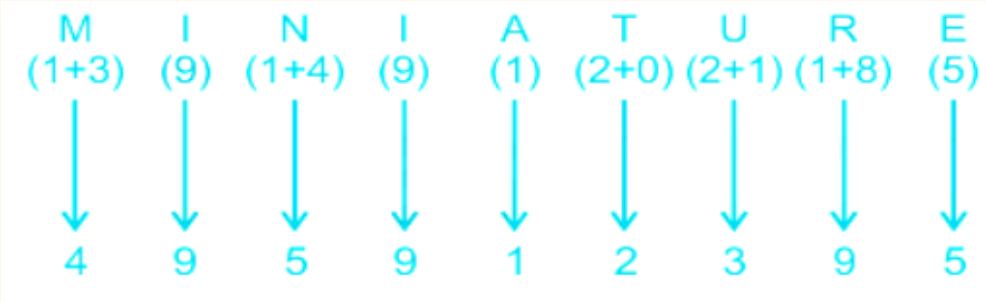
a. 7919125

b. 7904125

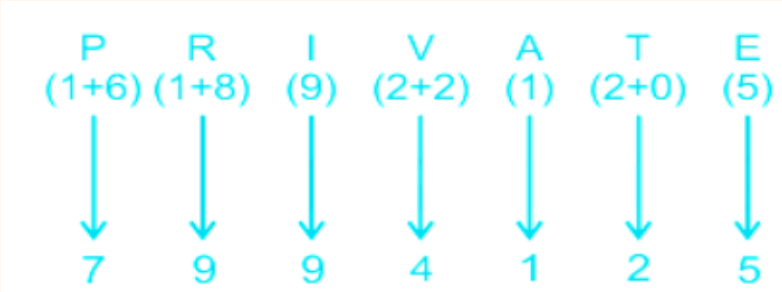
c. 7994125

d. 9749125

Ans. c
Explanation:
Given: MINIATURE is written as 495912395.
The logic followed here is:



Similarly,



Hence, 7994125 is the correct answer.

99. Four words have been given, out of which three are similar in meaning and one is different. Select the odd one.
a. Apprehensive
b. Scared
c. Composed
d. Afraid

Ans. c
Explanation:
The pattern followed here is:
By checking options:
(1) Apprehensive → anxious or fearful that something bad or unpleasant will happen.
(2) Scared → fearful; frightened.
(3) Composed → having one's feelings and expression under control; calm.
(4) Afraid → feeling fear or anxiety; frightened.

Hence, composed is the correct answer .

100. The average weight of a group of 20 boys was calculated to be 65 kg and it was later discovered that the weight of a boy was misread as 76 kg instead of the correct weight 66 kg. The correct average weight was:
a. 66 kg
b. 63 kg
c. 65.5 kg
d. 64.5 kg

Ans. d
Explanation:
Given:
Incorrect average weight of 20 boys = 65 kg
Formula used:
Average weight = Sum of the weights/Number of persons
Correct average = (Sum of the weights - Wrong Entry + Correct Entry)/ Number of persons
Calculation:
Correct average weight = (20 × 65 - 76 + 66)/20
⇒ 1290/20
⇒ 64.5 kg
∴ The required result = 64.5 kg