RRB NTPC 8 Jan 2021 Shift 2 Solution

1. If cos x= $\frac{-1}{2}$ and $\pi < x < \frac{3\pi}{2}$, find the value of 4 $tan^2 x - 3\, cosec^2 x$

a. 16
b. 10
c. 12
d. 8

Ans. d
Explanation:
Given:
cos x= $\frac{-1}{2}$ and $\pi < x < \frac{3\pi}{2}$
Formula used:
cos(π + x) = - cos x ∵ [$\pi < x < \frac{3\pi}{2}$]
Calculation:
cos x = - 1/2
⇒ cos x = cos(π + π/3)
⇒ x = 4π/3
4 tan 2x - 3 cosec 2x
⇒ 4 × (√3)
2 - 3 × (- 2/√3)
2
⇒ 4 × 3 - 3 × 4/3
⇒ 12 - 4
⇒ 8
∴ The required value is 8.

2. Which place was called the “nursery of the Bengal army"?
a. Awadh
b. Bengal

c. Eastern Uttar Pradesh
d. Punjab

Ans. a
Explanation:
The correct answer is Awadh.
Awadh was called the “nursery of the Bengal army".

3. If , 6(sec 2 59° - cot 2 31°] + 2/3 × sin 90° - 3 × tan 2 56° × y × tan 2 34° = y/3 then the value of y is:
a. 2
b. 3
c. 1
d. 4

Ans. a
Explanation:
Given:
6(sec 2 59° - cot 2 31°] + 2/3 × sin 90° - 3 × tan 2 56° × y × tan 2 34° = y/3
Formulas used:
cosec(90°- A) = sec A
tan(90° - A) = cot A
cosec 2A- cot 2 A = 1
Calculation:
6(sec 2 59° - cot 2 31°] + 2/3 × sin 90° - 3 × $tan^2$56° × y × tan 2 34° = y/3
⇒ 6[sec^2(90°- 31°) - cot2 31°] + 2/3 × 1 - 3 ×tan^2(90°- 34°) × y × tan 234° = y/3
⇒6[$cosec^2$31°- cot 2 31°] + 2/3 - 3 × cot234°× y × tan 234° = y/3
⇒ 6 × 1 + 2/3 - 3 × 1/tan 234°× tan 234° × y = y/3
⇒ 6 + 2/3 - 3y = y/3
⇒ 20/3 = y/3 + 3y
⇒ 20/3 = 10y/3
⇒ 20 = 10y
∴ y = 2

4. Which gas is needed for photosynthesis?
a. Carbon dioxide

b. Oxygen
c. Hydrogen
d. Carbon monoxide

Ans. a
Explanation:
The correct answer is Carbon dioxide.
Carbon dioxide gas is needed for photosynthesis.

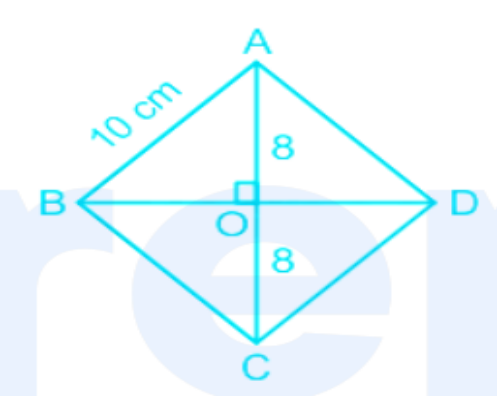
5. A alone can complete a work in 10 days and B can complete it in 15 days. A and B undertook the work for Rs. 4,800. With the help of C, they complete the work in 5 days. What amount is to be paid to C?
a. Rs. 700
b. Rs. 1200
c. Rs. 800
d. Rs. 600

Ans. c
Explanation:
Given:
Time taken by A to do a work = 10 days
Time taken by B to do the same work = 15 days
Time taken by A, B and C do the same work = 5 days
Amount of earning = Rs.4800
Formula used:
Ratio of shares of A, B and C = Ratio of their Efficiency
Calculation:
Let total work be = 1 unit
One day work done by A = 1/10
One day work done by B = 1/15
One day work done by A, B and C = 1/5
⇒ One day work done by C = 1/5 - (1/10 - 1/15)
⇒ 1/30
Ratio of shares of A, B and C = Ratio of their one-day work efficiency
⇒ A : B : C = 1/10 : 1/15 : 1: 30
⇒ A : B : C = 3 : 2 : 1
∴ C's share in earning = Rs.4800 × 1/6

⇒ Rs.800

6. Find the area of a rhombus whose side is 10 cm and the longest diagonal is 16 cm.
a. 88 cm 2
b. 96 cm 2
c. 86 cm 2
d. 94 cm 2

Ans. b
Explanation:
Given:
Side of a rhombus = 10 cm
Length of longest diagonal = 16 cm
Concept:
A rhombus has equal sides and its diagonals are perpendicular bisectors.
Formulas used:
Area of a rhombus = 1/2 × D1 × D2 [D1 and D2 are diagonals]
Calculation:



By Pythagoras Theorem
In triangle ABO, AB2 = AO 2 + BO 2
⇒ 102 = 82 + BO 2
⇒ BO = √(100 - 64) = √36
⇒ BO = 6
BD = 2 × BO = 2 × 6 = 12 cm
∴ The area of rhombus = 1/2 × 16 cm × 12 cm
⇒ 96 cm 2

7. The compound interest on a certain sum of money at the rate of 11% p.a. for 2 years is Rs. 4642. Find its simple interest at the same rate and for the same period.

a. Rs. 4400
b. Rs. 3500
c. Rs. 4500
d. Rs. 4200

Ans. a
Explanation:
Given:
Compound Interest on a sum for 2 years at 11% p.a. = Rs.4642
Formulas used:
Compound Interest + Principal = Amount
⇒ Amount = Principal × $(1 + R/100)^n$
Simple Interest = Principal × Rate/100 × Time
Calculation:
4642 + P = P × (1 + 11/100)2
⇒ 4642 = P × 111/100 × 111/100 - P
⇒ 4642 = P(111/100 × 111/100 - 1)
⇒ 4642 = P(12321 - 10000)/10000
⇒ 4642 = P × 2321/10000
⇒ P = 4642 × 10000/2321
⇒ P = Rs.20000
∴ Simple Interest = 20000 × 11/100 × 2 = Rs.4400

8. Which function key in Excel helps to switch to edit mode?

a. F2
b. F5
c. F3
d. F7

Ans. a
Explanation:
The correct answer isF2.
The function key in Excel helps to switch to edit mode, that is F2 .

9. The 2020, UNESCO/Guillermo Cano Press Freedom Prize has been awarded to _____
a. Jineth Bedoya Lima
b. Cheng Yizhong
c. Mahmud Abu Zeid
d. Reeyot Alemu

Ans. a
Explanation:
The correct answer is Jineth Bedoya Lima.
2020, UNESCO/Guillermo Cano Press Freedom Prize has been awarded to Jineth Bedoya Lima .

10. Name the Buddhist text that comprises rules for monks.
a. Tipitaka
b. Vinaya Pitaka
c. Sutta Pitaka
d. Abhidhamma Pitaka

Ans. b
Explanation:
The correct answer is Vinaya Pitaka.
The Buddhist text that comprises rules for monks is Vinaya Pitaka .

11. Name the cyclone that hit Odisha and West Bengal in May 2020.
a. Fani
b. Bulbul
c. Amphan
d. Hudhud

Ans. c
Explanation:
The correct answer is Amphan.
The cyclone that hit Odisha and West Bengal in May 2020 is "Amphan" .

12. Which one of the following was a measure taken under the Rowlatt Act?
a. Restriction on traveling abroad.

b. Restriction on wearing Khadi.
c. Forced to buy foreign goods.
d. Imprisonment without trial.

Ans. d
Explanation:
The correct answer isImprisonment without trial.
Imprisonment without trial was one of the measures taken by the British government under the Rowlatt Act.

13. The mean of a, b, c, d, e and f is 36. If the mean of b, d and f is 28, find the mean of a, c and e.
a. 44
b. 30
c. 32
d. 42

Ans. a
Explanation:
Given:
Mean of a, b, c, d, e and f = 36
Mean b, d and f = 28
Formula used:
Mean = Sum of observations/No of observations
Calculation:
Sum of a, b, c, d, e and f = 36 × 6 = 216
Sum of b, d and f = 28 × 3 = 84
Sum of a, c and e = Sum(a, b, c, d, e, f) - Sum(b, d, f)
⇒ 216 - 84 = 132
∴ Mean of a, c and e = 132/3 = 44

14. Which Indian female shooter had won the gold medal in individual 10 m air rifle women event at the 2019 ISSF World Cup in New Delhi?
a. Anjum Moudgil
b. Apurvi Chandela
c. Heena Sidhu
d. Manu Bhaker

Ans. b
Explanation:
The correct answer is Apurvi Chandela
Apurvi Chandela became the world number one in women's 10m Air Rifle category in the 2019 ISSF World Cup.

15. Select the number from among the given options that will come next in the following series.
4, 16, 40, ?
a. 88
b. 98
c. 68
d. 48

Ans. a
Explanation:
The logic is:
$4 \times 2 + 8 = 8 + 8 = 16$
$16 \times 2 + 8 = 32 + 8 = 40$
$40 \times 2 + 8 = 80 + 8 = 88$
Hence, ' 88 ' is the correct answer.

16. In an election the votes cast for two candidates were in the ratio 2 : 9. If the successful candidate received 984321 votes, find the total voters polled.
a. 1230059
b. 1203059
c. 1302059
d. 1320059

Ans. b
Explanation:
Given:
Ratio of the votes cast for two candidates = 2 : 9
The successful candidate received 984321 votes
Calculation:
The successful candidate gets more votes than the loser candidates.
⇒ Let the votes cast for two candidates were 2a and 9a respectively

9a = 984321 [∵ 2a < 2b]
⇒ a = 984321/9 = 109369
∴ Total votes polled = 2a + 9a = 11a ⇒ 11a = 11 × 109369 = 1203059

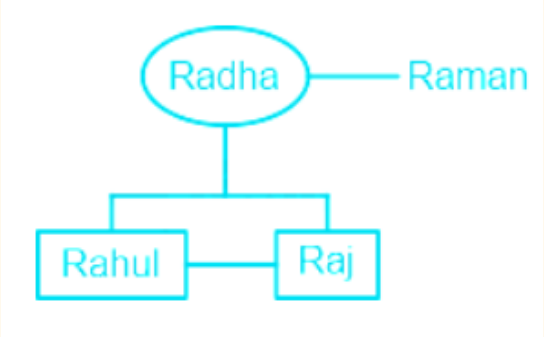
17. The length of a rectangle is $\frac{3}{5}$ of the radius of a circle. The radius of a circle is equal to the side of a square whose area is 4900 m 2.
What is the area ofthe rectangle if its breadth is 20 m.
a. 840 m 2
b. 860 m 2
c. 480 m 2
d. 880 m 2

Ans. a
Explanation:
Given:
Area of a square = 4900 m 2
The radius of a circle = Side of the square
Length of rectangle = 3/5 of the radius of the circle
Breadth of rectangle = 20 m
Formulas used:
Area of square = (Side)
2
Area of rectangle = Length × Breadth
Calculation:
Area of square = (Side)
2
⇒ 4900 = (Side) 2
⇒ Side = √4900
⇒ Side = 70 m
Radius of the cirlce = Side of the square = 70 m
Length of rectangle = 3/5 × 70 m
⇒ Length of rectangle = 42 m
∴ Area of the rectangle = 42 m × 20 m
⇒ 840 m 2

18. Rahul is the brother of Raj. Radha is the sister of Raman. Raj is the son of Radha. Then how is Rahul related to Radha?

a. Son
b. Nephew
c. Uncle
d. Brother

Ans. a
Explanation:



Clearly, Rahul is Son of Radha.
Hence, ‘ Son ’ is the correct answer.

19. If the length of side of a square is increased by 10%, what is the percentage increase in its area?
a. 10%
b. 21%
c. 20%
d. 15%

Ans. b
Explanation:
Given:
Length of side of a square increases by 10%
Formula used:
Area of square = (Side)2
Calculation:
Let the side of square be = 10 units
Area of the old square = 10 × 10 = 100 sq. units
⇒ Increased side of the square = 10 × 110/100 = 11 units
Area of the new square = 11 × 11 = 121 sq. units

Percentage increase of area = (New Area - Old Area)/Old Area × 100
∴ The required increase in the area = (121 - 100)/100 = 21/100 × 100 = 21%

20. Which of the following has been written by Munshi Premchand?
a. Chidambara
b. Kamayani
c. Sevasadan
d. Yama

Ans. c
Explanation:
The correct answer is Sevasadan.
Seva Sadan has been written by Munshi Premchand .

21. Select the option that is related to the third term in the same way as the second term is related to the first term.
paper : stapler :: clothes : ?
a. Washing machine
b. Dryer
c. Detergent
d. Hanger

Ans. d
Explanation:
The logic is:
paper : stapler → A stapler is a mechanical device used for joining papers together.
Similarly,
clothes : ? → Hanger is a shaped piece of wood, plastic, or metal with a hook at the top, from which clothes may be hung in order to keep them in shape.
Hence, ‘ Hanger ’ is the correct answer.

22. If the sum of squares of two positive numbers is 2437 and square root of one number is 7, find the other number.
a. 6
b. 12
c. 8
d. 16

Ans. a
Explanation:
Given:
Sum of square of two positive numbers = 2437
Square root of one number = 7
Formula used:
√a = b
⇒ a = b2
Calculation:
Let the two numbers be a and b respectively.
a2 + b2 = 2437
√a = 7
⇒ a = 7^2 = 49
49^2 + b2 = 2437
⇒ b2 = 2437 - 2401 = 36
⇒ b= √36 = ± 6
∴ The other number is + 6.

23. Ramesh Sharma borrows Rs. 8,000 for 3 years at 5% p.a. simple interest. He lends it to Manohar at 7% p.a. for 3 years. Find his gain.
a. Rs. 580
b. Rs. 480
c. Rs. 450
d. Rs. 460

Ans. b
Explanation:
Given:
Principal of Rs.8000 borrowed for 3 years at 5% p.a. and the same sum was lent at 7% p.a. for the same time.
Formula used:
Simple Interest = (P × R × T) /100
Calculation:
Simple Interest paid by Ramesh = 8000 × (5/100) × 3 = Rs.1200
Simple Interest earned by Ramesh = 8000 × (7/100) × 3 = Rs.1680
∴ Gain earned by Ramesh = Interest earned - Interest paid
⇒ 1680 - 1200 = Rs.480

24. A train covers 400 km at a uniform speed. If the speed had been 10 km/h more, it would have taken 2 h less for the same journey. Find the speed of the train.
a. 40 km/h
b. 50 km/h
c. 55 km/h
d. 45 km/h

Ans. a
Explanation:
Given:
Distance covered = 400 km
Formula used:
Time = Distance/Speed
Calculation:
Let the speed of the train be = a km/h
As per the question;
400/a - 400/(a + 10) = 2
⇒ 1/a - 1/(a + 10) = 2/400
⇒ (a + 10 - a)/a(a + 10) = 1/200
⇒ 10/a(a + 10) = 1/200
⇒ a
2 + 10a = 2000
⇒ a 2 + 10a - 2000 = 0
⇒ a 2 + 50a - 40a - 2000 = 0
⇒ a(a + 50) - 40(a + 50) = 0
⇒ (a - 40)(a + 50) = 0
⇒ a = 40, a ≠ - 50
∴ The speed of the train is 40 km/h.

25. Nobel Laureate, Kailash Satyarthi is associated with which of the following organization?
a. Beti Bachao, Beti Padhao
b. SOS village
c. Child Relief and You
d. Bachpan Bachao Andolan

Ans. d
Explanation:
The correct answer isBachpan Bachao Andolan.
Nobel Laureate, Kailash Satyarthi is associated with the "Bachpan Bachao Andolan" organization.

26. Name the recently added 17th zone of the Indian Railway.
a. East Central Railway
b. Delhi Metro
c. Kolkata Metro
d. Konkan Railway

Ans. c
Explanation:
The correct answer is Kolkata Metro.
The recently added 17 th zone of the Indian Railway is Kolkata Metro .

27. Which of the following is a cause for Migration of unskilled workers?
a. Population
b. Poverty
c. Pollution
d. Ambience

Ans. b
Explanation:
The correct answer is Poverty.
A cause for the Migration of unskilled workers in poverty .

28. In a firm the ratio of male and female members was 4 : 5. The firm decided to increase the number of males by 80% and the number of females by 60%. What will be the new ratio of male members to female members in the firm?
a. 8 : 10
b. 15 : 16
c. 18 : 15
d. 9 : 10

Ans. d
Explanation:
Given:
The ratio of male and female members = 4 : 5
Increase the percentage of males = 80%
Increase the percentage of females = 60%
Calculation:
Let the number of males and females be 40 and 50 respectively.
New number of males = 40 × 180/100 = 72
New number of females = 50 × 160/100 = 80
∴ The new ratio of males to females = 72 : 80 = 9 : 10

29. A is 5 times as good as workman as B and therefore is able to complete a job in 60 days less than B. In how many days will they finish it working together?

a. $12\frac{1}{2}$ days

b. 12 days

c. $14\frac{1}{2}$ days

d. 14 days

Ans. a
Explanation:
Given:
A is 5 times as good as B and A completes a job in 60 days less than B.
Formula used:
Work = Efficiency × Time
Calculation:
Ratio of the efficiencies of A to B = 5 : 1
⇒ The ratio of the time taken by A and B = 1 : 5
As per the question;
B - A = 60 days
⇒ 5 - 1 = 4 = 60 days
⇒ 1 = 15 days
Work = Efficiency × Time
⇒ 5 × 15 = 75 units
∴ The time taken by A and B to work together = 75/(1 + 5)

$\Rightarrow 12\frac{1}{2}$ days

30. What was India's Rank in Human Development Index, 2019?
a. 147
b. 139
c. 152
d. 129

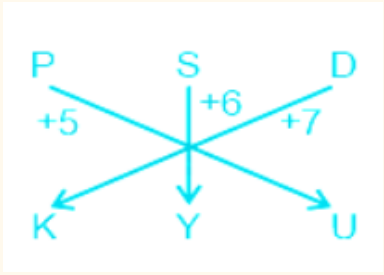
Ans. d
Explanation:
The correct answer is129.
India's Rank in Human Development Index, 2019 is 129 .

31. Name the youngest-ever UNICEF Goodwill Ambassador.
a. Millie Bobby Brown
b. Lily singh
c. Lionel Messi
d. Priyanka Chopra

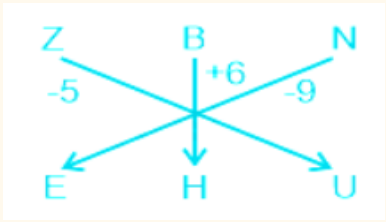
Ans. a
Explanation:
The correct answer is Millie Bobby Brown.
The youngest-ever UNICEF Goodwill Ambassador is Millie Bobby Brown .

32. In the following question, four letter pairs are given. The letters on left side of (-) is related to the letters on the right side of (-) with some Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.
a. PSD - KYU
b. ZBN - EHU
c. SJF - MPX
d. NRB - IXS

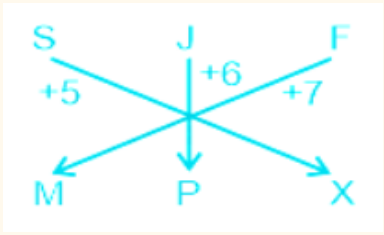
Ans. b
Explanation:
The pattern followed here is:
According to the alphabetical positions of the letters,



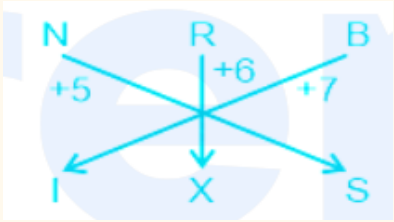
2.



3.



4.



Hence, ‘ ZBN - EHU ’ is the odd one out.

33. Which of the following Heritage sites has the Dravidian style of architecture?
a. Hampi
b. Ellora
c. Khajuraho
d. Konark

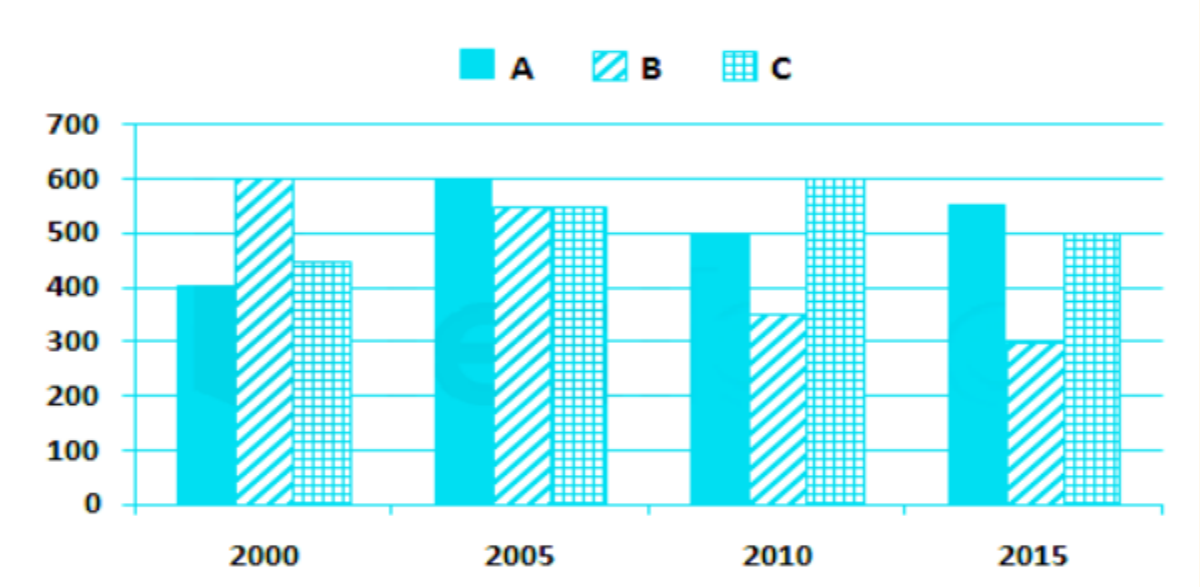
Ans. a

Explanation:
The correct answer is Hampi.
The Heritage site that has the Dravidian style of architecture is Hampi .

34. The smallest six-digit number which is completely divisible by 4, 8, 12 and 16 is:
a. 100032
b. 100900
c. 100800
d. 100700

Ans. a
Explanation:
Given:
Smallest six-digit number which is divisible by 4, 8, 12 and 16.
Concept:
LCM (Lowest Common Multiple)
Dividend = Divisor × Quotient + Remainder
Calculation:
LCM of 4, 8, 12 & 16 will be calculated by writing them as the product of their prime factors.
4 = 22
8 = 23
12 = 22 × 3
16 = 24
So, LCM (4, 8, 12, 16) = 2
4 × 3 = 48
The smallest six-digit number is 100000.
By dividing 100000 by 48, we get the remainder 16.
So, we need to add the difference between the Divisor and Remainder to 100000 (Dividend) in order to get the smallest six-digit number divisible by 48.
⇒ 100000 + (48 - 16) = 48 × 2083 + 16 + (48 - 16)
⇒ 100032 = 48 × 2083 + 16 + 32
⇒ 100032 = 48 × 2083 + 48
⇒ 100032 = 48 × 2083 + 48
∴ The smallest six-digit number which is completely divisible by 4, 8, 12 and 16 is 100032.

35. Study the given diagram and answer the question that follows.



A, B and C are different cities and the given data is of the number of accidents that took place in the respective years 2000, 2005, 2010 and 2015.
On the basis of given data, which city can be said to have controlled accidents most effectively?
a. A
b. B
c. A and C both
d. C

Ans. b
Explanation:
Given:
Data related to accidents took place from 2000 to 2015 has been given in city A, B and C.
Calculation:
Number of accidents took place in city A from the year 2000 to 2015 = 400 + 600 + 500 + 550 = 2050
Number of accidents took place in city B from the year 2000 to 2015 = 600 + 550 + 350 + 300 = 1800
Number of accidents took place in city C from the year 2000 to 2015 = 450 + 550 +

650 + 450 = 2100
City B has the lowest number of accidents from 2000 to 2015.
∴ City B can be said to have controlled accidents most effectively.

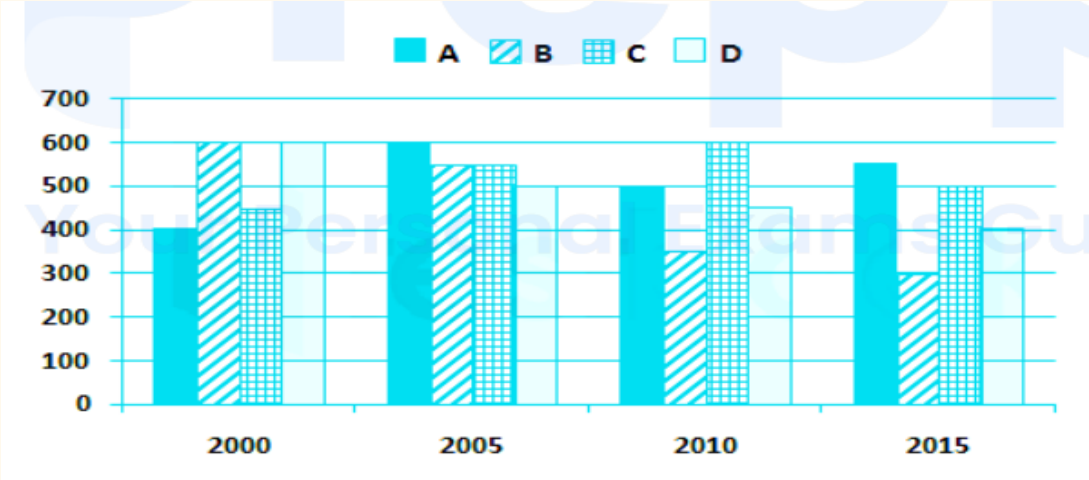
36. If $\sqrt{2116 \times \sqrt{48 \div x}}$ =92, find the value of x.
a. 12
b. 3
c. 2
d. 6

Ans. b
Explanation:
Given:
$\sqrt{2116 \times \sqrt{48 \div x}}$ =92
Formula used:
√a = b
⇒ a = b2
Calculation:
$\sqrt{2116 \times \sqrt{48 \div x}}$ =92
By squaring both sides;
⇒ 2116 × √(48 ÷ x) = 92^2
⇒ 2116 × √(48 ÷ x) = 8464
⇒√48 ÷ x = 8464/2116
⇒ √(48 ÷ x) = 4
⇒ 48/x = 4^2
⇒ 48/x = 16
⇒ x = 48/16
∴ x = 3

37. Which state in India has the biggest consumption of fertliser(in Kg Per hectare)?
a. Haryana
b. West Bengal
c. Andhra Pradesh
d. Punjab

Ans. d
Explanation:
The correct answer isPunjab.
In India, Punjab has the biggest consumption of fertilizer (in Kg Per hectare).

38. Study the given diagram and answer the question that follow.



A, B, C and D are different cities, and the given data is of the number of accidents that took place in the respective years 2000, 2005, 2010 and 2015.
If the data for 2020 follows the trend similar to that of 2015, which city is most likely to have a higher number of accidents?
a. B
b. A
c. C
d. D

Ans. b
Explanation:
Given:
The data for 2020 follows the trend similar to that of 2015
Calculation:
No of accidents in city A in 2020 = 550
No of accidents in city B in 2020 = 300
No of accidents in city C in 2020 = 500
No of accidents in city D in 2020 = 400
∴ City A is most likely to have a higher number of accidents.

39. If $x^4 + x^{-4}$ = 1154 then the value of x + x^{-1} is:
a. 5
b. 12
c. 6
d. 8

Ans. c
Explanation:
Given:
x 4 + x -4 = 1154
Formula used:
(a + b)2 = a2 + b2 + 2ab
Calculation:
x 4 + x -4 = 1154
or
x 4 + 1/x 4 = 1154 (1)
By adding 2 on both sides in equation (1)
⇒ x 4 + 1/x 4 + 2 = 1154 + 2
⇒ (x^2 + 1/ x^2)2 = 1156
⇒ (x^2 + 1/ x^2) = √1156 = 34 (2)
By adding 2 on both sides in equation (2)
⇒ (x 2 + 1/x 2 + 2) = 34 + 2
⇒ (x + 1/x)2 = 36
⇒ (x+ 1/x) = √36 = 6
∴ x + x -1 = 6

40. Which famous revolutionary set up base near Satar river in Jhansi in the 1920's using the alias, Pandit Harishankar Brahmachari?
a. Bhagat singh
b. Udham singh
c. Khudiram Bose
d. Chandrashekhar Azad

Ans. d
Explanation:
The correct answer is Chandrashekhar Azad.

Indian revolutionary Chandrashekhar Azad set up a base near Satar river in Jhansi in the 1920s using the alias, Pandit Harishankar Brahmachari.

41. In May 2019, the last captive White tiger of Mumbai died. What was the name of the tiger?
a. Balaji
b. Shivaji
c. Vishwanath
d. Bajirao

Ans. d
Explanation:
The correct answer is Bajirao.
In May 2019, the last captive White tiger of Mumbai died. The name of the tiger is Bajirao .

42. CSIR scientists have conducted a genetic study for the first time in India. Where has the study been conducted?
a. Hyderabad
b. Lakshwadeep
c. Kochi
d. Andaman

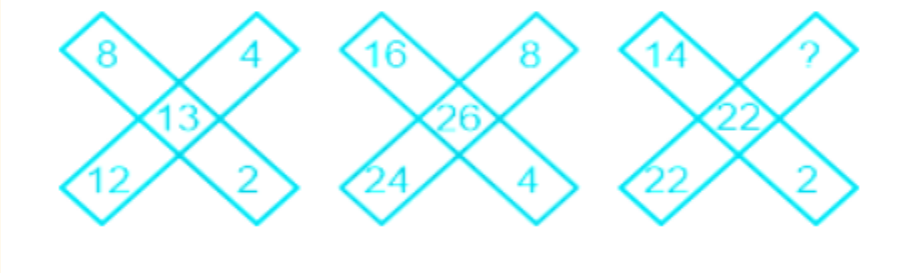
Ans. b
Explanation:
The correct answer is Lakshwadeep.
CSIR scientists have conducted a genetic study for the first time in Lakshwadeep , India.

43. Which other movement was combined with the non-cooperation movement in 1920?
a. Swadeshi Movement
b. Khilafat Movement
c. Home Rule Movement
d. August Kranti

Ans. b

Explanation:
The correct answer is Khilafat Movement.
Movement that was combined with **t**he non-cooperation movement in 1920 was Khilafat Movement .

44. Study the given pattern carefully and select the number that can replace the question mark (?) in it.



a. 8
b. 12
c. 6
d. 10

Ans. c
Explanation:
The logic is:
Figure 1: (8 + 4 + 2 + 12) ÷ 2 = 26 ÷ 2 = 13
Figure 2: (16 + 8 + 4 + 24) = 52 ÷ 2 = 26
Similarly,
Let the missing number be a.
Figure 3: (14 + a + 2 + 22) ÷ 2 = 22
⇒ 38 + a = 22 × 2
⇒ 38 + a = 44
⇒ a = 44 - 38
⇒ a = 6
Hence, ‘ 6’ is the correct answer.

45. Find the sum of the numbers between 400 and 600 such that when they are divided by 6, 12 and 16, there will be no remainder.
a. 2620
b. 2016
c. 2026

d. 2610

Ans. b
Explanation:
Given:
We need to find the sum of numbers in the range of 400 - 600 such that they are divisible by each 6, 12 and 16.
Concept:
LCM (Lowest Common Multiple)
Calculation:
LCM (6, 12, 16) = 48
The required numbers will be in the form of 48k, where k is a natural number.
For k = 9, 48k = 48 × 9 = 432
For k = 10, 48k = 48 × 10 = 480
For k = 11, 48k = 48 × 11 = 528
For k = 12. 48k = 48 × 12 = 576
∴ The sum of these 4 numbers that is, 432, 480, 528, and 576 is 2016.

46. Who said in the Constituent assembly debate on 27 August 1947, “I believe separate electorates will be suicidal to the minorities."
a. R V dhulekar
b. 'Govind Bhallabh Pant
c. B. Pocker Bahadur
d. Sardar Vallabhbhai Patel

Ans. b
Explanation:
The correct answer is Govind Bhallabh Pant.
In the Constituent Assembly debate on 27 August 1947, Govind Bhallabh Pant said “I believe separate electorates will be suicidal to the minorities.

47. Find the least number of five digits, which is exactly divisible by 472.
a. 10284
b. 10472
c. 10184
d. 10384

Ans. d
Explanation:
Given:
The least number of five digits, which is exactly divisible by 472.
Concept:
Dividend = Divisor × Quotient + Remainder
Calculation:
Least five-digit number = 10000
By dividing 10000 by 472;
⇒ 10000 = 472 × 21 + 88 (1)
By adding the difference of divisior and remainder that is, (472 - 88) 384 to both the sides in the above equation (1)
⇒ 10000 + 384 = 472 × 21 + 88 + 384
⇒ 10384 = 472 × 21 + 472
∴ 10384 is the least five-digit number that is exactly divisible by 472

48. Due to 25% reduction in the price of wheat per kg, John is able to buy 5 kg more for Rs.600. What is the original price of wheat per kg?
a. Rs. 60
b. Rs. 45
c. Rs. 40
d. Rs. 50

Ans. c
Explanation:
Given:
Reduction percent in the price of wheat = 25%
Expenses on wheat = Rs.600
Formula used:
Expense = Price × Quantity
⇒ Quantity = Expense/Price
Calculation:
Let the original price = Rs.100a per kg
⇒ The reduced price of wheat = 100a × 75/100 = Rs.75a per kg
600/75a - 600/100a = 5
⇒ 104/3a - 26/a = 5
⇒ 8/a - 6/a = 5

⇒ 2/a = 5
⇒ a = 2/5
∴ The original price per kg = 100a = 100 × 2/5 = Rs.40

49. On being criticized for borrowing features from other countries for the constitution, who said the following- “Nobody holds any patent rights in the fundamental ideas of a constitution.
a. Sardar Vallabhbhai Patel
b. Dr. BR Ambedkar
c. C. Rajgopalachari
d. Jawahar Lal Nehru

Ans. b
Explanation:
The correct answer is Dr. BR Ambedkar.
On being criticized for borrowing features from other countries for the constitution, Dr. BR Ambedkar said the following- “Nobody holds any patent rights in the fundamental ideas of a constitution".

50. As per Public affair Index 2020 (PAI-2020), which of the following state emerged as the best governed state in the country?
a. Kerala
b. Maharashtra
c. Gujrat
d. Punjab

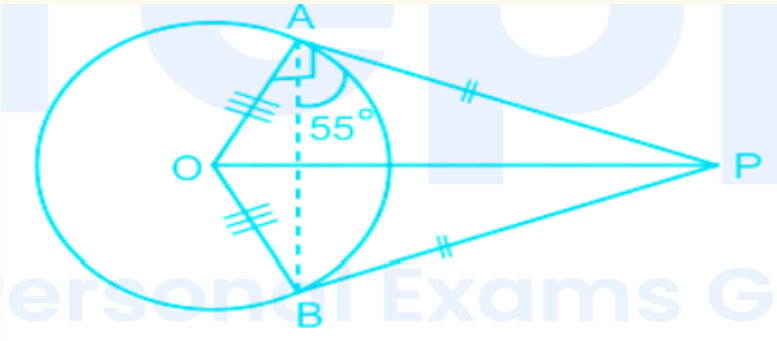
Ans. a
Explanation:
The correct answer is Kerala
As per Public affair Index 2020 (PAI-2020), Kerala state emerged as the bestgoverned state in the country.

51. As per flag code of India 2002, What should be the position of the Indian flag when it is displayed along with flags of other countries in a straight line?
a. Anywhere in the row
b. Extreme left
c. Extreme right
d. In the middle

Ans. c
Explanation:
The correct answer is Extreme right.
Ans. c
Explanation:
The correct answer is Extreme right.

52. From an external point P, tangents PA and PB are drawn to a circle with centre O. If ∠PAB= 55°, find ∠AOB.
a. 110°
b. 100°
c. 35°
d. 125°

Ans. a
Explanation:
Given:
PA and PB are the tangents to the circle with centre O.
∠PAB= 55°
Concept:
Tangents drawn from the same external point are equal in length.
A tangent perpendicular to the radius at the point of tangency.
Calculation:



∵ ∠PAB = 55°
∴ ∠PBA = 55° (PA = PB)
In triangle PAB,
∠APB + ∠PAB + ∠PBA = 180° (Angle Sum Property)
⇒ ∠P + 55° + 55° = 180°

⇒ ∠P = 70°
Also, ∠AOB + ∠APB = 180° (Sum of all the angles of a quadrilateral is 360° & ∠P = 70° ∠B = 90°)
⇒ ∠AOB = 180° - 70° = 110
∴ The measure of ∠AOB = 110°

53. The three laws of motion were proposed by:
a. Galileo
b. Aristole
c. Edison
d. Newton

Ans. d
Explanation:
The correct answer is Newton.
The three laws of motion were proposed by Sir IsaacNewton .

54. The average weight of A, B, C, and D is 56 kg. If the average weight of A, B, and C is 52 kg and that of C and D is 48 kg. then the weight of C is:
a. 36 kg
b. 28 kg
c. 30 kg
d. 34 kg

Ans. b
Explanation:
Given:
The average weight of A, B, C, and D = 56 kg
The average weight of A, B, and C = 52 kg
The average weight of C and D = 48 kg
Formula used:
Average weight = Total weight/No of persons
Calculation:
Total weight of A, B, C, & D = 56 kg × 4 = 224 kg (1)
Total weight of A, B, & C = 52 kg × 3 = 156 kg (2)
Total weight of C and D = 48 kg × 2 = 96 kg (3)
By (2) + (3) - (1)

⇒ (A + B + C) + (C + D) - (A + B + C + D) = 156 kg + 96 kg - 224 kg
⇒ A + B + 2C + D - A - B - C - D = 28 kg
⇒ C = 28 kg
∴ The weight of C is 28 kg.

55. Name the first student satellite built by Indian high school student team and launched by NASA.
a. Kalamsat
b. SRMsat
c. Anusat
d. Pratham

Ans. a
Explanation:
The correct answer isKalamsat.
The first student satellite was built by an Indian high school student team and launched by NASA is Kalamsat .

56. The least number which should be added to 4707 so that the sum is exactly divisible by 4, 5, 6 and 8 is:
a. 83
b. 73
c. 63
d. 93

Ans. d
Explanation:
Given:
Number = 4707
Concept:
Dividend = Divisor × Quotient + Remainder
LCM = Lowest Common Multiple
It is the smallest positive number that is divisible by two or more numbers.
Calculation:
To find the least number which can be added to 4707 that is exactly divisible by 4, 5, 6 and 8, we need to find the LCM of these 4 numbers.
LCM of 4, 5, 6 and 8 can be calculated by prime factorization;

$4 = 2^2$
$5 = 5$
$6 = 2 \times 3$
$8 = 2^3$
$\Rightarrow$ LCM (4, 5, 6, 8) = $2^3 \times 3 \times 5 = 120$
When divided 4707 by 120, we get
$\Rightarrow 4707 = 120 \times 39 + 27$
By adding the difference of Divisor and remainder (120 - 27) = 93
$\Rightarrow 4707 + 93 = 120 \times 39 + 27 + 93$
$\Rightarrow 4800 = 120 \times 39 + 120$
$\Rightarrow 4800 = 120 (39 + 1)$
$\Rightarrow 4800 = 120 \times 40$
$\therefore$ The least number that should be added to 4707 so that the sum is exactly divisible by 4, 5, 6 and 8 is 93.

57. Name the Kalvari class submarine launched in Mumbai in Nov 2020.
a. INS Khanderi
b. INS Vagir
c. INS Arighat
d. INS Karanj

Ans. b
Explanation:
The correct answer is INS Vagir.
The Kalvari class submarine launched in Mumbai in Nov 2020 is INS Vagir.

58. What is the full form of COBOL?
a. Common Business Organised Language
b. Computer Business Oriented Language
c. Computer Basic Operation Language
d. Common Business Oriented Language

Ans. d
Explanation:
The correct answer is Common Business Oriented Language.
The full form of COBOL is Common Business Oriented Language .

59. Study the given pattern carefully and select the number that can replace the question mark (?) in it.

9	5	5
5	7	?
3	4	5
135	140	150

a. 6
b. 4
c. 8
d. 10

Ans. a
Explanation:
The logic is:
Column 1: 9 × 5 × 3 = 135
Column 2: 5 × 7 × 4 = 140
Similarly,
Let the missing number in column 3 be 'a'.
So, 5 × a × 5 = 150
⇒ 25 × a = 150
⇒ a = 150 ÷ 25
⇒ a = 6
Hence, ‘ 6’ is the correct answer.

60. Simplify.

$$\frac{6.25+\frac{5}{7}\times 28-5}{\frac{3}{4}\times(15.8-3.4)+5\times 2.39}$$

a. 4
b. 1
c. 3
d. 5

Ans. b
Explanation:
Given:
$$\frac{6.25+\frac{5}{7}\times 28-5}{\frac{3}{4}\times(15.8-3.4)+5\times 2.39}$$
Calculation:
$$\frac{6.25+\frac{5}{7}\times 28-5}{\frac{3}{4}\times(15.8-3.4)+5\times 2.39}$$
⇒ (6.25 + 5 × 4 - 5)/(3/4 × (12.4) + 11.95)
⇒ (6.25 + 20 - 5)/(3 × 3.1 + 11.95)
⇒ (6.25 + 20 - 5)/(3 × 3.1 + 11.95)
⇒ 21.25/21.25
⇒ 1
∴ The required result = 1

61. What is the code name of India's first successful Nuclear test?
a. Laughing Buddha
b. Operation Shakti
c. Smilling Buddha
d. Operation Vijay

Ans. c
Explanation:
The correct answer is Smiling Buddha.
The code name of India's first successful Nuclear test was Smiling Buddha .

62. Whom did Mahatma Gandhi consider his mentor in politics?
a. Gopal Krishna Gokhale
b. Raychandbhai
c. Lala Lajpat Rai
d. Bal Gangadhar Tilak

Ans. a
Explanation:
The correct answer is Gopal Krishna Gokhale.
Gopal Krishna Gokhale is known as "The Political Guru of Gandhi" .

63. Which is the longest railway line in the world?
a. The Union- Pacific railway
b. The Australian Trans-Continental Railway
c. Trans-Canadian Railway
d. Trans-Siberian Railway

Ans. d
The correct answer is Trans-Siberian Railway.
The longest railway line in the world is Trans-Siberian Railway .

64. Litmus solution is derived from _____
a. Hydrangea
b. Petunia
c. Cabbage leaves
d. Lichen

Ans. d
Explanation:
The correct answer isLichen.
Litmus solution is derived from Lichen .

65. The region where farmers specialise in vegetables only, this type of farming is known as :
a. Cooperative farming
b. Mixed farming
c. Truck farming
d. Collective farming

Ans. c
Explanation:
The correct answer is Truck farming.
The farmers specialize in vegetables only, this type of farming is known as Truck farming .

66. Which of the following state has the highest wind energy production in

India?
a. Odisha
b. Karnataka
c. Maharashtra
d. Tamil Nadu

Ans. d
Explanation:
The correct answer is Tamil Nadu.
The highest wind energy production in India is in Tamil Nadu state.

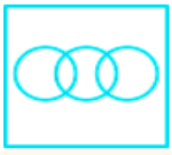
67. Which city has bagged the second spot in the Swacch Sarvekshan award for 2020?
a. Chandigarh
b. Bhopal
c. New Delhi
d. Surat

Ans. d
Explanation:
The correct answer isSurat.
The second spot in the Swacch Sarvekshan award for 2020 is Surat city, Gujrat.

68. Select the Venn diagram that best represents the relationship between the given set of classes.

Students, Interns and Research scholars

a. 

b. 

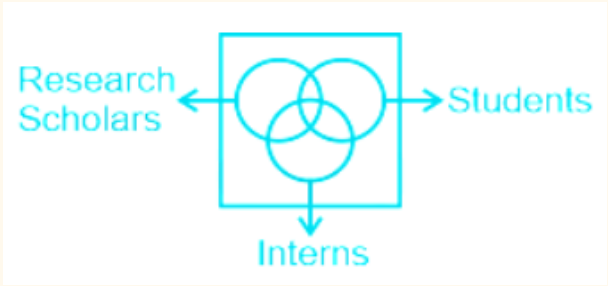
c. 

d. 

Ans. c

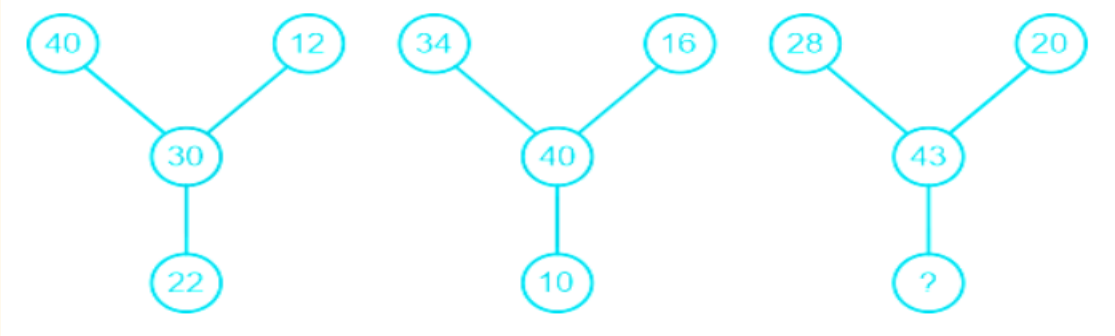
Explanation:

The Venn diagram that best represents the relationship between Students, Interns and Research scholars is shown below:



Some Research scholars are Students and Interns, some Interns are Research scholars and Students and some Students are Interns and Research scholars as well.
A research scholar is typically a college or graduate student who works under an advisor works on projects in a specific field of study, seeking to analyze and uncover new information that can be presented in academic or trade journals.
Hence, ‘ option 3 ’ is the correct answer.

69. Study the given pattern carefully and select the number that can replace the question mark (?) in it.



a. 5
b. 11
c. 7
d. 9

Ans. a
Explanation:
The logic is:
1st figure: (40 + 12) - 30 = 52 - 30 = 22
2nd figure: (34 + 16) - 40 = 50 - 40 = 10
Similarly,
3rd figure: (28 + 20) - 43 = 48 - 43 = 5
Hence, ' 5' is the correct answer.

70. $3^{71} + 3^{72} + 3^{73} + 3^{74} + 3^{75}$ **is divisible by:**
a. 8
b. 11
c. 7
d. 5

Ans. b
Explanation:
Given:
$3^{71} + 3^{72} + 3^{73} + 3^{74} + 3^{75}$
Formula used:
$a^n + a^{n+1} = a^n(1 + a)$
Calculation:
3 71 + 3 72 + 3 73 + 3 74 + 3 75

⇒ 3 71 $(1 + 3 + 3^2 + 3^3 + 3^4)$
⇒ 3 71 (1 + 3 + 9 + 27 + 81)
⇒ 3 71 (1 + 3 + 9 + 27 + 81)
⇒3 71 ×121
⇒3 71 ×11×11
∴ The expression 3 71 ×11×11 has 11 as its factor.
∴ It is divisible by 11.

71. Study the given pattern carefully and select the number that can replace the question mark (7) in it.

4	3	8
9	7	2
8	6	4
44	27	?

a. 20
b. 84
c. 14
d. 64

Ans. a
Explanation:
The logic is:
Column 1 : 4 × 9 + 8 = 36 + 8 = 44
Column 2 : 3 × 7 + 6 = 21 + 6 = 27
Similarly,
Column 3 : 8 × 2 + 4 = 16 + 4 = 20
Hence, ‘ 20 ’ is the correct answer.

72. The full form of BHEL is _____
a. Bharat Heavy Electricals Limited
b. Bharat Heavy Electronics Limited
c. Bureau of Heavy Electronics Limited
d. Bureau of Heavy Electricals Limited

Ans. a
Explanation:
The correct answer is Bharat Heavy Electricals Limited.
The full form of BHEL is Bharat Heavy Electricals Limited .

73. Simplify.
17 × 8 - 6 + [(27 - 3) ÷ 6 - 4]
a. 130
b. 142
c. 150
d. 136

Ans. a
Explanation:
Follow BODMAS rule
Given:
17 × 8 - 6 + [(27 - 3) ÷ 6 - 4]
Calculation:
17 × 8 - 6 + [(27 - 3) ÷ 6 - 4]
⇒136 - 6 + [24 ÷ 6 - 4]
⇒130 + [4 - 4]
⇒ 130 + 0
⇒ 130
∴ The required result = 130

74. The perimeter of a right triangle is 60 cm and its hypotenuse is 26 cm. Find the area of the triangle.
a. 240 cm 2
b. 180 cm 2
c. 160 cm 2
d. 120 cm 2

Ans. d
Explanation:
Given:
Perimeter of a right triangle = 60 cm
Hypotenuse = 26 cm

Formulas used:
(x + y)2 = x2 + y2 + 2xy
Perimeter of the right-angle triangle = Base + Height + Hypotenuse
Pythagoras Theorem:
Base2 + Height2 = Hypotenuse2
Area of right-angle triangle = 1/2 × Base × Height
Calculation:
Let the base and height be x and y respectively
Sum of base and height (x + y) = 60 - 26 = 34 cm (1)
Also, x2 + y2 = 262
⇒ x 2 + y 2 = 676 (2)
From (1)
(x + y) = 34
By squaring both sides;
⇒ x 2 + y 2 + 2xy = 1156
⇒ 676 + 2xy = 1156 ∵ [x 2 + y 2 = 676]
⇒xy = (1156 - 676)/2
⇒ xy = 240 (3)
∴ Area of right-angle triangle = 1/2 × 240 = 120 cm 2

75. If a2+ b2= 82 and ab = 9, Find the value of a3+ b3.
a. 720
b. 830
c. 730
d. 750

Ans. c
Explanation:
Given:
a 2 + b 2 = 82
ab = 9
Formulas used:
(a + b)2 = a2 + b2 + 2ab
(a + b)3 = a3 + b3 + 3ab(a + b)
Calculation:
(a + b) 2 = 82 + 2 × 9
⇒(a + b) 2 = 100

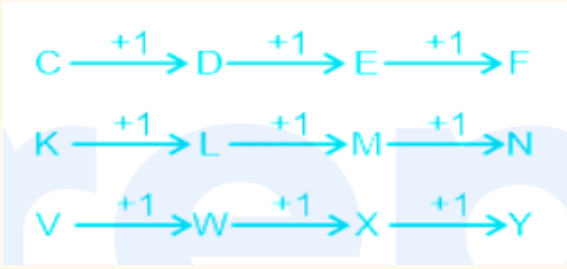
⇒ (a + b) = √100 = 10 (1)
(a + b) 3 = a 3 + b 3 + 3ab(a + b)
⇒ 10^3= a 3 + b 3 + 3 × 9 × 10
⇒ 1000 = a 3 + b 3 + 270
⇒ a 3 + b 3 = 1000 - 270
∴ a 3 + b 3 = 730

76. Where was the first oil well discovered in Assam?
a. Digboi
b. Rudrasagar
c. Naharkatiya
d. Moran Hugrijan

Ans. a
Explanation:
The correct answer is Digboi.
The first oil well was discovered in Assam in Digboi .

77. Select the pattern that will come next in the following series.
CKV, DLW, EMX, ?
a. FNY
b. FLP
c. HNZ
d. BOI

Ans. a
Explanation:
According to the alphabetical positions of the letters,



Hence, ‘ FNY ’ is the correct answer.

78. Who is considered the father of computers?
a. Charles Babbage
b. John Atanasoff
c. Charles Bachman
d. Alan turing

Ans. a
Explanation:
The correct answer is Charles Babbage .
Charles Babbage is considered the father of computers.

79. If A is equal to 1, M is equal to 13 and R is equal 18, how would you spell MISSION?
a. 139191991314
b. 149191991314
c. 139191991514
d. 129191991314

Ans. c
Explanation:
The logic followed here is:
The positional value of the letter is given as their code.
As "A" is equal to 1, "M" is equal to 13 and "R" is equal 18.
A = 1 which means A positional value is given
M = 13 which means A positional value is given
R = 18 which means A positional value is given
Similarly,
MISSION → ?

Letter	Given code
M	13
I	9
S	19
S	19
I	9
O	15
N	14

Thus MISSION → 139191991514
Hence, the correct answer is "139191991514".

80. What is the momentum of an object having mass of 14 kg and velocity 28 m/s?
a. 1/392 kg-m/s
b. 2 kg-m/s
c. 0.5 kg-m/s
d. 392 kg-m/s

Ans. d
Explanation:
The correct answer is 392 kg-m/s.

81. A man bought 2 articles for Rs. 3,000 each. He sold one article at 10% profit and another at 5% profit. Find the total percentage profit he earned.
a. 15%
b. 6.5%
c. 7.5%
d. 8.5%

Ans. c

Explanation:
Given:
Cost Price of two articles = Rs.3000 each
Profit on one article = 10%
Profit on another article = 5%
Formulas used:
Selling Price = Cost Price × (100 + Profit)/100%
Profit = Selling Price - Cost Price
Profit percent = Profit/Cost Price × 100
Calculation:
Selling Price of one article at 10% profit = 3000 × 110/100 = Rs.3300
Selling Price of another article at 5% profit = 3000 × 105/100 = Rs.3150
Total Selling Price of both articles = 3300 + 3150 = Rs.6450
Total Cost Price of both articles = Rs.3000 + Rs.3000 = Rs.6000
Profit on both articles = Rs.6450 - Rs.6000 = 450
∴ Profit Percent on both articles = 450/6000 × 100
⇒ 7.5%

82. Simplify.

$$\frac{46+\frac{3}{4}\times 32-6}{37-\frac{3}{4}\times(34-6)}$$

a. 10
b. 6
c. 4
d. 8

Ans. c
Explanation:
Follow BODMAS rule
Given:

$$\frac{46+\frac{3}{4}\times 32-6}{37-\frac{3}{4}\times(34-6)}$$

Calculation:

$$\frac{46+\frac{3}{4}\times 32-6}{37-\frac{3}{4}\times(34-6)}$$

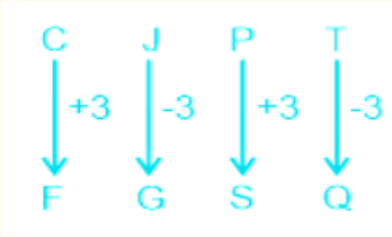
⇒ (46 + 3 × 8 - 6)/(37 - 3/4 × (28)
⇒ (46 + 24 - 6)/(37 - 3/4 × 7)

⇒ (46 + 24 - 6)/(37 - 3 × 7)
⇒ 64/16
⇒ 4
∴ The required result = 4

83. Select the option that is related to the third term in the same way as the second term is related to the first term.
BILR : EFOO :: CJPT : ?
a. FGSQ
b. QWNT
c. MIEB
d. NGDE

Ans. a
Explanation:
The pattern followed here is:

Similarly



Hence, ‘ FGSQ ’ is the correct answer.

84. Ina code language, if KARAN is written as 45, then how will ARUN be written as in that language?
a. 56
b. 54
c. 41

d. 42

Ans. b
Explanation:
The pattern followed here is:
According to the alphabetical positions of the letters,
KARAN → K (11) + A (1) + R (18) + A (1) + N (14) = 11 + 1 + 18 + 1 + 14 = 45
Similarly,
ARUN → A (1) + R (18) + U (21) + N (14) = 1 + 18 + 21 + 14 = 54
Hence, ‘ 54 ’ is the correct answer.

85. Which sector is the biggest emitter of greenhouse gases?
a. Agriculture
b. Waste
c. Energy
d. Land use change

Ans. c
Explanation:
The correct answer is Energy.
The energy sector is the largest contributor of greenhouse gases , accounting for two-thirds of the total emissions.

86. Select the number that will come next in the following series.
2, 7, 14, 23, ?
a. 33
b. 34
c. 30
d. 13

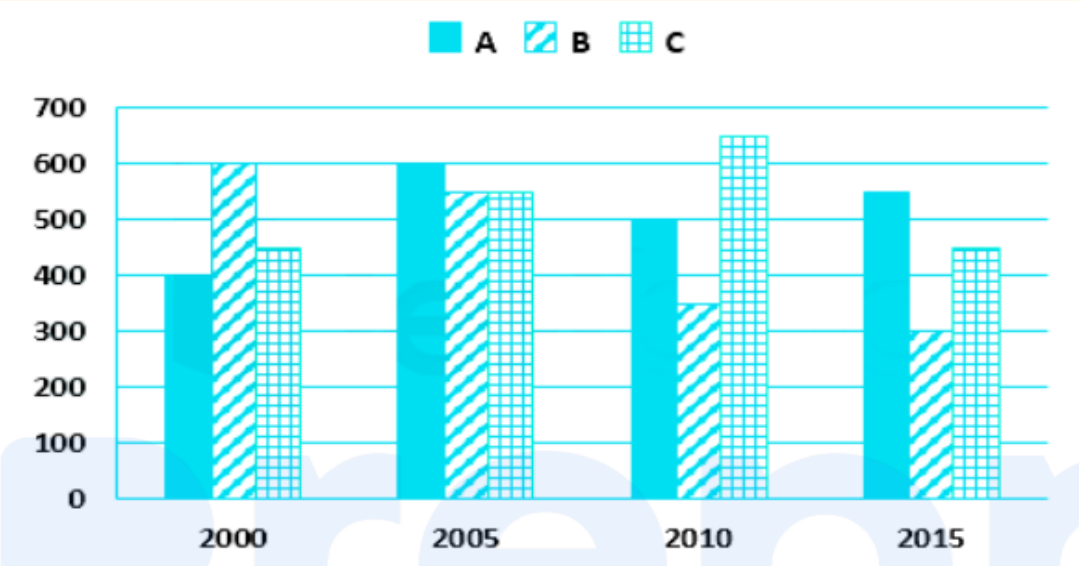
Ans. b
Explanation:
The logic is:
2 + 5 = 7
7 + 7 = 14
14 + 9 = 23
23 + 11 = 34

Hence, ‘ 34 ’ is the correct answer.

87. If A is taller than B and B is taller than C. D is shorter than B but taller than C, then D is:
a. taller than B
b. the shortest
c. taller than A and B
d. taller than C

Ans. d
Explanation:
1. A is taller than B and B is taller than C.
A > B > C
2. D is shorter than B but taller than C.
B > D > C
From 1 and 2, we get:
A > B > D > C
Then D is:
1. taller than B → False (B is taller than D)
2. the shortest → False (C is the shortest)
3. taller than A and B → False (Both A and B is taller than D)
4. taller than C → True
Hence, ‘ taller than C ’ is the correct answer.

88. Study the given diagram and answer the question that follow.



A, B and C are different cities and the given data is of the number of accidents that took place in the respective years 2000, 2005, 2010 and 2015.
Which city has the highest number of accidents on an average?
a. A and C both
b. C
c. B
d. A

Ans. b
Explanation:
Given:
Number of accidents took place from the year 2000 to 2015 in city A = 400 + 600 + 500 + 550 = 2050
Number of accidents took place from the year 2000 to 2015 in city B = 600 + 550 + 350 + 300 = 1800
Number of accidents took place from the year 2000 to 2015 in city C = 450 + 550 + 650 + 450 = 2100
Formula used:
Average = Sum of observations over the years/ No of years
Calculation:
Average no of accidents in city A = 2050/4 = 512.5
Average no of accidents in city B = 1800/4 = 450
Average no of accidents in city C = 2100/4 = 525
∴ City C has the highest number of accidents on an average.

89. Select the Venn diagram that best represents the relationship between the given set of classes.
Short women, White-haired people, Indians

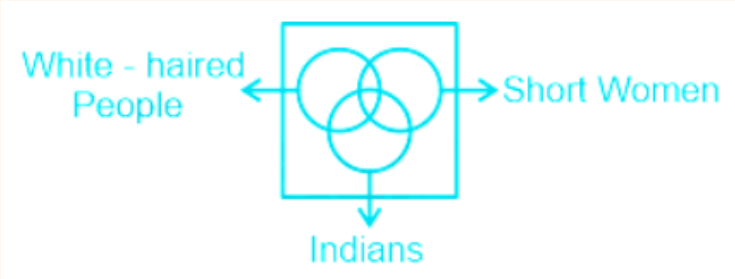
a. 

b. 

c. 

d. 

Ans. c
Explanation:
The Venn diagram that best represents the relationship between Short women, White-haired people, and Indians is shown below:



Some Indian women are short. Some short women have white hair. Some Indian people have white hair.
Hence, ‘ option 3 ’ is the correct answer

90. A question is given followed by two arguments. Decide which of the arguments is/are strong with respect to the question.
Question:
Should elections be conducted for student unions in educational institutions?
Arguments:
1. Yes, it is important to conduct elections so that the rights and complaints

of the students can be heard by authorities.
2. No, it disrupts the educational environment and leads to chaos and violence in institutes which does not solve any problems but creates more issues.
a. Neither 1 nor 2 is strong.
b. Both, 1 and 2 are strong.
c. Only 1 is strong
d. Only 2 is strong

Ans. b
Explanation:
Arguments:
1. Yes, it is important to conduct elections so that the rights and complaints of the students can be heard by authorities → Strong (as it gives a proper reason to conduct elections in educational institutions)
2. No, it disrupts the educational environment and leads to chaos and violence in institutes which does not solve any problems but creates more issues → Strong (as it gives a proper reason to why elections should not be conducted in educational institutions)
Hence, both 1 and 2 are strong.

91. In a code language, if RAMAN is written as 47, then how will ARJUN be written as in that language?
a. 44
b. 74
c. 54
d. 64

Ans. d
Explanation:
The pattern followed here is:
According to the alphabetical positions of the letters,
RAMAN → R (18) + A (1) + M (13) + A (1) + N (14) = 18 + 1 + 13 + 1 + 14 = 47
Similarly,
ARJUN → A (1) + R (18) + J (10) + U (21) + N (14) = 1 + 18 + 10 + 21 + 14 = 64
Hence, ‘ 64 ’ is the correct answer.

92. Reading the English alphabet from left to right, what is the 5 th letter to the right of the 14 th letter?
a. S
b. T
c. R
d. U

Ans. a
Explanation:
According to the alphabetical positions of the letters,
14th letter is N
5 th letter to the right of the 14 th letter = N + 5 = S
S is the 5 th letter to the right of the 14 th letter.
Hence, ‘ S’ is the correct answer.

93. In a code language, if FORWARD is written as 1234536 and WATER is written as 45783, how will RETARD be written as in that language?
a. 386536
b. 387536
c. 387546
d. 386546

Ans. b
Explanation:
The logic is:

F	O	R	W	A	R	D
1	2	3	4	5	3	6

W	A	T	E	R
4	5	7	8	3

Similarly,

R	E	T	A	R	D
3	8	7	5	3	6

Hence, ‘ 387536 ’ is the correct answer.

94. In a code language, if LAST is written as 1234 and BOOK is written as 5667, how will TOAST be written as in that language?
a. 45234
b. 46234
c. 46324
d. 47234

Ans. b
Explanation:
The logic is:

L	A	S	T
1	2	3	4
B	O	O	K
5	6	6	7

Similarly,

T	O	A	S	T
4	6	2	3	4

Hence, ‘ 46234 ’ is the correct answer.

95. Select the number that will come next in the following series.
9, 81, 6561, ?
a. 43046621
b. 43046221
c. 43046721
d. 42046721

Ans. c
Explanation:
The logic is:
9 × 9 = 81
81 × 81 = 6561

6561 × 6561 = 43046721
Hence, ‘ 43046721 ’ is the correct answer.

96. How many 3s are there in the given series that are followed by 9 and preceded by 8?
1839793997634983974583968300775368265969
a. 1
b. 3
c. 4
d. 5

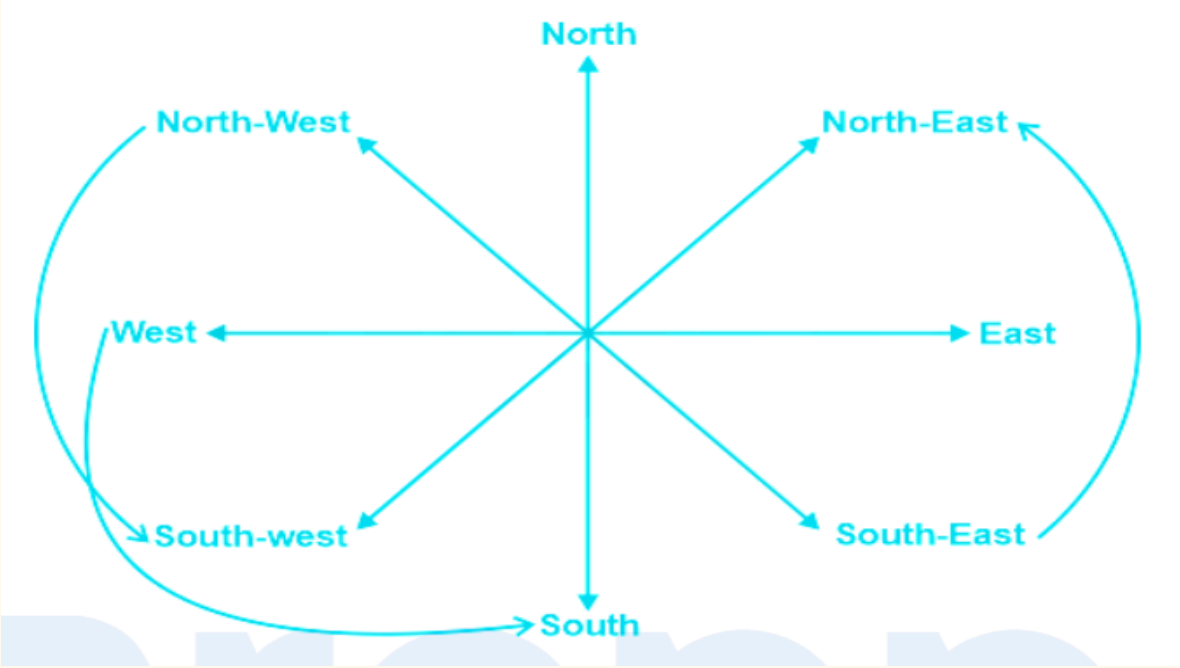
Ans. b
Explanation:
Required Pattern: 8 3 9
Given series: 1 839 7939976349 839 745 839 68300775368265969
Clearly, three 3s are there in the given series that are followed by 9 and preceded by 8.
Hence, ‘ 3’ is the correct answer.

97. Select the number from among the given options that will come next in the following series.
3, 27, 243, ?
a. 2900
b. 2187
c. 2493
d. 2100

Ans. b
Explanation:
The logic is:
3 × 9 = 27
27 × 9 = 243
243 × 9 = 2187
Hence, ‘ 2187 ’ is the correct answer.

98. If the south-east direction moves two places and becomes north-east; and north-west moves two places to become south-west, what would be the direction that west would become, assuming all other directions make similar movements?
a. South
b. North-west
c. East
d. North-east

Ans. a
Explanation:
If the south-east direction moves two places and becomes north-east; and northwest moves two places to become south-west.
The above condition is true when each direction shifts its position by rotating 90º anti-clockwise.
So, the direction west would become South, assuming all other directions make similar movements.



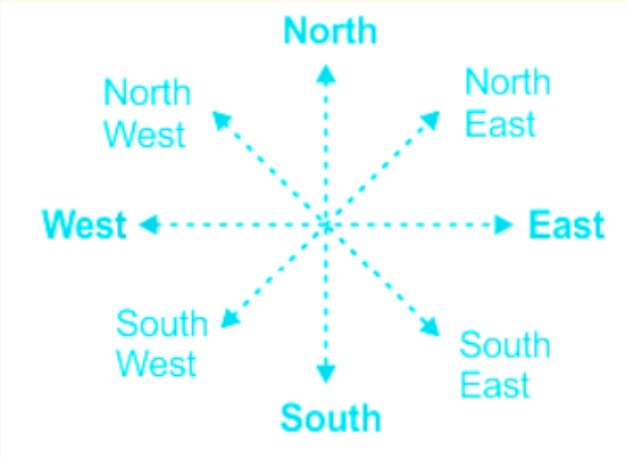
Hence, ‘ South ’ is the correct answer.

99. Select the option that is related to the third term in the same way as the second term is related to the first term.
Hand : Thumb :: pen : ?
a. paper
b. Nib
c. Finger
d. Holder

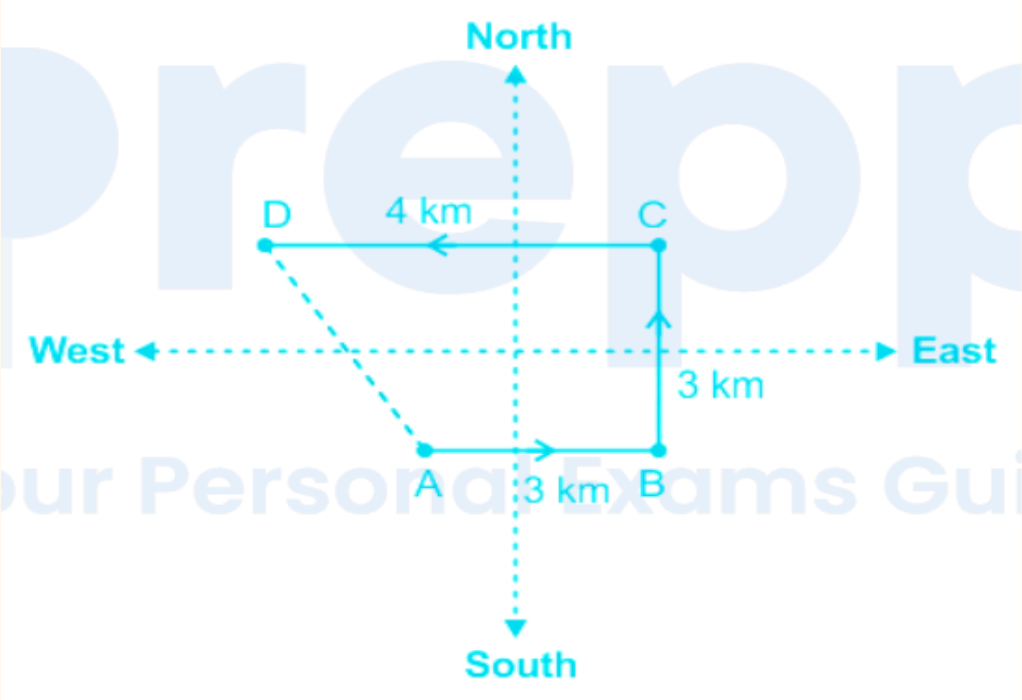
Ans. b
Explanation:
The logic is:
Hand : Thumb → Thumb is the initial part that is attached to the human hand .
Similarly,
Pen : ? → A nib is the initial part of a pen, through which we write.
Hence, ‘ Nib ’ is the correct answer.

100. After starting from a point, Naveen walks 3 km towards the east. Then turning to his left he moves 3 km. After this he again tums his left and moves 4 km. In which direction is he standing from his starting point?
a. South-east
b. South
c. North
d. North-west

Ans. d
Explanation:



We have drawn the figure according to the information given in the question,
(Let the turning points as shown in the figure)



Hence, Naveen is standing in the north-west direction from its starting point.