RRB NTPC 9 Jan 2021 Shift 2 Solution

1. P is taller than Q and R is taller than S. If S is taller than Q but shorter than P and P is shorter than R, who is the tallest?
a. S
b. R
c. P
d. Q

Ans. b
Explanation:
The logic followed here is:
1) P is taller than Q.
P > Q
2) R is taller than S.
R > S
3) S is taller than Q but shorter than P and P is shorter than R.
R > P > S > Q
Thus, R is the tallest in all.
Hence, the correct answer is "R".

2. An amount of Rs.48,000 is divided between two brothers Anil and Aditya in the ratio 11 : 13. What is the share of Aditya?
a. Rs.26,000
b. Rs.2,000
c. Rs.24,000
d. Rs.22,000

Ans. a
Explanation:
Given:
Total amount = Rs. 48000
Ratio of Anil and Aditya = 11 : 13
Concept used:
Concept of ratio and proportion

Calculation:
According to the question,
Share of Aditya = 48000 × 13/24
⇒ Rs. 26000
∴ The share of Aditya is Rs. 26000

3. If sinθ - cosθ = 0, (angle in first quadrant) then the value of sin^3θ + 3cos^3θ is:
a. $\frac{1}{\sqrt{2}}$
b. 2√2
c. √2
d. 2

Ans. c
Explanation:
Given:
sinθ - cosθ = 0
Calculation:
sinθ - cosθ = 0
⇒ sinθ = cosθ
So, θ = 45°
sin 3θ + 3cos 3θ
⇒ $(1/\sqrt{2})^3$ + $3(1\sqrt{2})^3$
⇒ 1/2√2 + 3/2√2
⇒ 4/2√2
⇒ 2/√2
⇒ √2
∴ Required answer is √2

4. In which state is the Bhadra Wildlife Sanctuary located?
a. Kerala
b. Punjab
c. Bihar
d. Karnataka

Ans. d

Explanation:
The correct answer is Karnataka.
Bhadra Wildlife Sanctuary, a protected area and tiger reserve as part of Project Tiger, is located in Chikkamagaluru district, 23 km south of Bhadravati town, 38 km 20 km northwest of Tarikere town, north-west of Chikkamagaluru and Karnataka state.

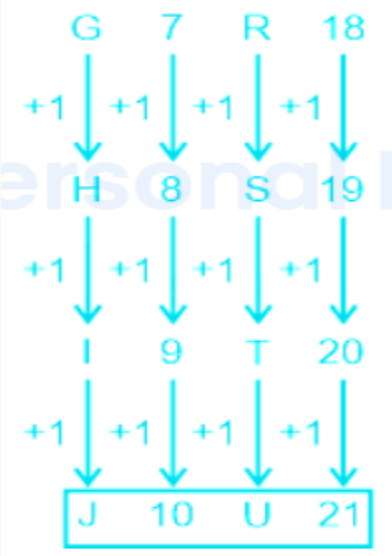
5. A sum becomes Rs.26,400 after 2 years at simple interest of 5% per annum. Find the sum.
a. Rs.2,640
b. Rs.2,400
c. Rs.24,000
d. Rs.29,040

Ans. c
Explanation:
Given:
Amount = Rs. 26400
Time = 2 years
Rate = 5%
Formula used:
Amount = P + SI
S.I = (P × t × r)/100
P = Principal
t = Time
r = Rate of interest
Calculation:
P + (P × 2 × 5)/100 = 26400
⇒ P + P/10 = 26400
⇒ 11P/10 = 26400
⇒ P = 26400 × 10/11
⇒ P = Rs. 24000
∴ The sum is Rs. 24000

6. Select the cluster that can replace the question mark (?) in the following series.
G7R18, H8S19, I9T20?

a. D3A11
b. L4B12
c. J10U21
d. C2P13

Ans. c
Explanation:
The logic followed here is:



Hence, the correct answer is "J10U21".

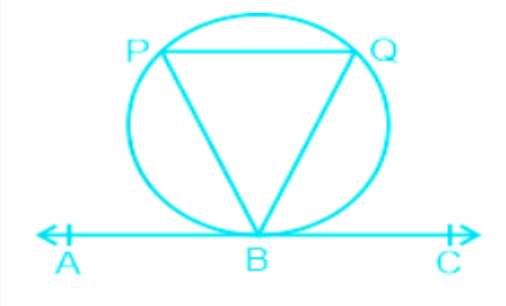
7. A scheme by the Government of India to maintain a viable population of tigers in India since 1973 is:
a. Wildlife Conservation
b. Wildlife in India
c. Project Tiger
d. Save the Tiger

Ans. c
Explanation:
The correct answer isProject Tiger.
Project Tiger was started in 1973 with 9 tiger reserves to conserve our national animal, the tiger.

8. Who among the following advocated a moderate, gradual and persuasive approach to colonial rule through the Swadeshi movement?
a. Bipin Chandra Pal
b. Bal Gangadhar Tilak
c. Lala Lajpat Rai
d. Gopal Krishna Gokhale

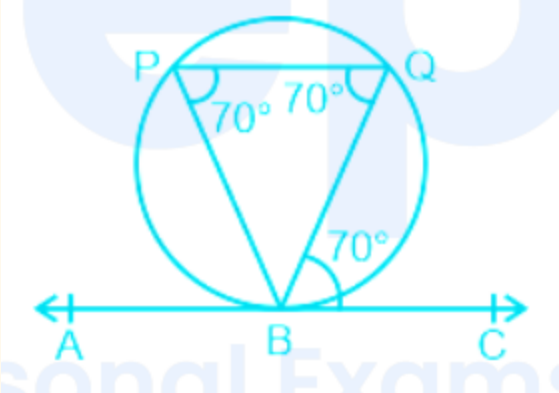
Ans. d
Explanation:
The correct answer is Gopal Krishna Gokhale.

9. Line ABC is a tangent to a circle at B. PQ || AC and ∠QBC = 70°. ∠PBQ is = ?



a. 70°
b. 20°
c. 110°
d. 40°

Ans. d
Explanation:
Given:
∠QBC = 70°
PQ || AC
Concept used:
The alternate segment theorem (also known as the tangent-chord theorem) states that in any circle, the angle between a chord and a tangent through one of the end points of the chord is equal to the angle in the alternate segment.
Calculation:



∠QBC = ∠BQP [∵ PQ || AC]
With the help of alternative segment theorem
∠BPQ = ∠QBC
So,
∠BQP and ∠BPQ = 70°
So ∠PBQ = 180 - 140
⇒ 40°
∴ ∠PBQ is 40°

10. Rajpal borrowed a certain amount at 10% per annum simple interest for $1\frac{1}{2}$ years. He gave the same amount as loan to a friend and charged compound interest (compounded semi-annually) at the same rate for the same period. In this way he earned Rs.305. Find the sum of the money.
a. Rs.30,500
b. Rs.40,000
c. Rs.40,305
d. Rs.30,000

Ans. b
Explanation:
Given:
Time = years
Rate = 10%
Formula used:
SI = (P × t × r)/100
CI = P(1 + (r/2)/100)
2n - P [When CI calculating in semi annually]

Calculation:
Let Principal be Rs. 8000x
So SI = (8000x × 3 × 10)/200
⇒ 1200x
So CI = 8000x(1 + 10/200)
3 - 8000x
⇒ 8000x × 9261/8000 - 8000x
⇒ 9261x - 8000x
⇒ 1261x
Difference = 1261x - 1200x = 61x
61x = 305
⇒ x = 5
So Principal = Rs. 40000

11. A 1.5 kg cake is divided equally among 10 boys. How much cake will each boy get?
a. 1500 g
b. 10 g
c. 150 g
d. 15 g

Ans. c
Explanation:
Given:
Total quantity = 1.5 kg
No. of boys = 10
Concept used:
Average = Total of elements/No. of elements
Calculation:
1.5 kg = 1500 g
So Each boys = 1500/10 = 150 g
∴ 150g cake will each boy get.

12. Everything in this universe is made up of the following materials. Scientists name it:
a. liquids
b. Crystals

c. matter
d. solids

Ans. c
Explanation:
The correct answer isMatter.
Everything in this universe is made up of the following materials. Scientists name it matter .

13. Which state in the United States of America was once Russian land?
a. California
b. Alaska
c. Hawaii
d. Nevada

Ans. b
Explanation:
The correct answer isAlaska.
Alaska is a state in the western United States located at the northwestern end of North America.

14. Simplify: 0.83 + 44.4 + 4.44 + 4.604 + 43
a. 56.18
b. 97.274
c. 178.67
d. 97.31

Ans. b
Explanation:
Given:
0.83 + 44.4 + 4.44 + 4.604 + 43
Concept used:
a.bc × 100 = abc
Calculation:
0.83 + 44.4 + 4.44 + 4.604 + 43
⇒ 0.830 + 44.400 + 4.440 + 4.604 + 43.000

⇒ 0.830 + 4.440 + 4.604 + 44.400 + 43.000
⇒ 9.874 + 87.400
⇒ 97.274
∴ Required answer is 97.274

15. At which Sikh Guru's invitation did the Sufi saint Hazrat Mian Mir lay the foundation stone of Golden Temple (Harmandir Sahib) in Amritsar?
a. Shri Guru Arjan Dev ji
b. Shri Guru Tegh Bahadur ji
c. Shri GuruHar Rai ji
d. Shri GuruHar Govind Ji

Ans. a
Explanation:
The correct answer isShri Guru Arjan Dev Ji.
Guru Arjan compiled the hymns of previous Gurus and of other saints into Adi Granth, the first edition of the Sikh scripture, and installed it in the Harimandir Sahib.

16. Who inaugurated the first ever corridor of the Delhi Metro?
a. Madan Lal Khuarana
b. Manmohan Singh
c. E Sreedharan
d. Atal Bihari Vajpayee

Ans. d
Explanation:
The correct answer isAtal Bihari Vajpayee.
The Red Line, the first line of the Delhi Metro, was inaugurated on 24 December 2002 by the then Prime Minister of India, Atal Bihari Vajpayee.

17. Select the number from among the given options that can replace the question mark (?) in the following table:

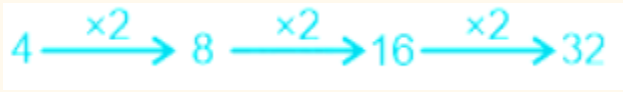
6	4	3
12	8	?
24	16	12
48	32	24

a. 9
b. 6
c. 3
d. 23

Ans. b
Explanation:
The logic followed here is:-
We multiply by 2 in the first column and first-row number then we get the second column and first-row number, then we multiply by 2 in the second column and firstrow number then we get the third column and first-row number, and then we multiply by 2 in the third column and first-row number then we get the fourth column and first-row number, which is given below:-

Column 1 → 6, 12, 24, 48

Column 2 → 4, 8, 16, 32

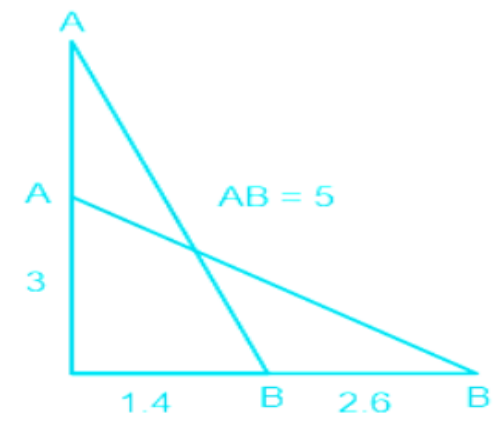


Similarly,
Column 3 → 3, ?, 12, 24

Hence, "option 2" is the correct answer.

18. 5 m long ladder is leaning against a wall and it reaches the wall at a point 3 m high. If the foot of the ladder is moved 2.6 m towards the wall then the distance by which the top of the ladder slides upwards on the wall is:
a. 1.08 m
b. 4.8 m
c. 5.6 m
d. 1.8 m

Ans. d
Explanation:
Given:
Length of ladder = 5 m
Concept used:
Pythagoras theorem
Calculation:



According to the question,

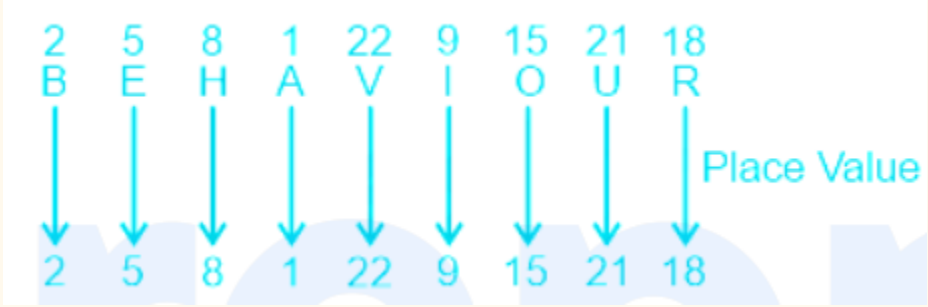
Distance from the wall to the foot of the ladder=$\sqrt{5^2 - 3^2}$
⇒ 4 m
Now it become 4 - 2.6 = 1.4 m

So height=$\sqrt{5^2 - 1.4^2}$
⇒ $\sqrt{25 - 1.96}$
⇒$\sqrt{23.04}$
⇒ 4.8

So ladder slide upwards by 4.8 - 3 = 1.8 m
∴ Ladder slides upwards on the wall is 1.8 m

19. If B is equal to 2, V is equal to 22 and R is equal to 18, how would you spell 'BEHAVIOUR'?
a. 2571229252218
b. 2581229152118
c. 2571229152218
d. 2571229152118

Ans. b
Explanation
The logic followed here is:-
If B is equal to 2, V is equal to 22 and R is equal to 18 that means we put the place value of letter, which is given below:-



Hence, "option 2" is the correct answer.

20. Consider the given statement and decide which of the given assumptions are implicit in the statement.
Statement: Go by airplane to reach Bengaluru from Mumbai quickly.
Assumptions:
1. Bengaluru and Mumbai are connected by airplane service.
2. There is no other means of going from Bengaluru to Mumbai.
a. Both 1 and 2 are implicit
b. Neither 1 nor 2 is implicit
c. Only 1 is implicit
d. Only 2 is implicit

Ans. c
Explanation:
The pattern followed here is:
From the statement, we want to reach on time, so we wants to travel as fast as we can and we mentions that go by airplane to reach Bengaluru from Mumbai quickly.
Thus, we can assume that Bengaluru and Mumbai are connected by airplane service.
Assumption I is implicit.
We can go from Bengaluru to Mumbai in another way also, so we cannot say anything about assumptions 2.
Assumption II is not implicit.
So, only 1 is implicit
Hence, "option 3" is the correct answer.

21. In which state did India's White Revolution have its origin?
a. Gujarat
b. Maharashtra
c. Uttar Pradesh
d. Odisha

Ans. a
Explanation:
The correct answer isGujarat.
The Amul-Anand Milk Union Limited Gujarat-based collaboration was the engine that drove the success of the Operation Flood program.

22. In a row of girls Mahua is 7th from one extreme and 11th from the other. Find the total number of girls in the row.
a. 17
b. 19
c. 16
d. 18

Ans. a
Explanation:
The logic followed here is:
Given that:-
In a row of girls, Mahua is 7 th from one extreme end.

In a row of girls, Mahua is 11th from other extreme ends.
Total number of girls in the row = Mahua position from one end + Mahua position from other end - 1 (Because Mahua added two times.)
Total number of girls in the row = 7 + 11 - 1 = 18 - 1 = 17.
Hence, "option 1" is the correct answer.

23. Simplify: 1800 ÷ 10 × {45 ÷ (17 - 2)} × 2 + {- 2(1 + 2)}
a. 180
b. 0
c. 1074
d. 114

Ans. c
Explanation:
Given:
1800 ÷ 10 × {45 ÷ (17 - 2)} × 2 + {- 2(1 + 2)}
Calculation:
1800 ÷ 10 × {45 ÷ (17 - 2)} × 2 + {- 2(1 + 2)}
⇒ 180 × {45 ÷ 15} × 2 + {- 2 × 3}
⇒ 180 × 3 × 2 - 6
⇒ 1080 - 6
⇒ 1074
∴ Required answer is 1074

24. Which type of coal has the highest percentage of carbon?
a. Bituminous
b. Lignite
c. Peat
d. Anthracite

Ans. d
Explanation:
The correct answer isAnthracite.
Anthracite is the best quality of coal with the highest calorific value and has a carbon content of 80 to 95%.

25. Simplify: 12 ÷ (3 × 2) + 8 × 4 - 4
a. 2
b. 1
c. 60
d. 30

Ans. d
Explanation:
Given:
12 ÷ (3 × 2) + 8 × 4 - 4
Calculation:
12 ÷ (3 × 2) + 8 × 4 - 4
⇒ 12 ÷ 6 + 8 × 4 - 4
⇒ 2 + 8 × 4 - 4
⇒ 2 + 32 - 4
⇒ 30
∴ Required answer is 30

26. Select the option that is related to the third term in the same way as the second term is related to the first term.
4 : 27 :: 25 : ?
a. 36
b. 30
c. 125
d. 216

Ans. d
Explanation:
The logic followed here is:-
Square root of first number and add 1 then cube of that number we get second number.
Similarly, for third and fourth number.

$4 \longrightarrow \sqrt{4} = 2 + 1 = 3^3 = 27$

$25 \longrightarrow \sqrt{25} = 5 + 1 = 6^3 = \boxed{216}$

Hence, "option 4" is the correct answer.

27. Who wrote the novel 'The God of Small Things'?
a. Arundhati Roy
b. Kiran Desai
c. Chetan Bhagat
d. Salman Rushdie

Ans. a
Explanation:
The correct answer isArundhati Roy.
The God of Small Things is a novel written by Indian writer Arundhati Roy.

28. The sum of the digits of a two-digit number is 9. If the digits are reversed, the new number when increased by 9 equals three times the original number. Find the number.
a. 45
b. 54
c. 27
d. 72

Ans. c
Explanation:
According to the question,
10y + x + 9 = 3(10x + y)
⇒ 10y + x + 9 = 30x + 3y
⇒ 29x - 7y = 9 ----(i)
29x - 7y = x + y
⇒ 28x = 8y
⇒ x and y = 2 and 7
So, the number is 20 + 7 = 27
∴ The number is 27

29. A train started with 450 passengers. At the first stop, $\frac{1}{9}$ of them got down and 20 new passengers got in. At the second stop, $\frac{1}{6}$ of the passengers then existing got down and 19 new passengers boarded. With how many

passengers did the train arrive at the third stop?
a. 394
b. 420
c. 400
d. 369

Ans. d
Explanation:
Given:
Total passenger at the beginning = 450
Concept used:
Final = Initial + inclusion or - exclusion
Calculation:
Passenger after 1st stop = 450 × 8/9 + 20
⇒ 420
Passenger after 2nd stop = 420 × 5/6 + 19
⇒ 369
∴ 369 passenger were there when train arraived at the third stop.

30. The base of a right-angled triangle is 12 cm and the difference between the other two sides is 6 cm. What will be the perimeter of the triangle?
a. 18 cm
b. 30 cm
c. 54 cm
d. 36 cm

Ans. d
Explanation:
Given:
Base = 12 cm
Concept used:
P2+ b2= h2
Calculation:
Let height be x cm
So, hypotenous is (x + 6) cm
(x + 6)2- x2= 144
⇒ x 2+ 36 + 12x - x 2 = 144

⇒ 12x = 108
⇒ x = 9
⇒ height = 9 cm
So, hypotenous is 15 cm
Perimeter = 9 + 12 + 15
⇒ 36 cm
∴ The perimeter of the triangle is 36 cm

31. As of October 2020, who is the current World Number 1 in Men's Tennis ATP rankings?
a. Alexander Zverev
b. Novak Djokovic
c. Roger Federerf
d. Rafael Nadal

Ans. b
Explanation:
The correct answer isNovak Djokovic.
As of October 2020, Novak Djokovic was the number one player on the ATP rankings with 11,740 points.

32. If (2x -1) is a factor of $2x^4$ - $7x^3$ + x + k = 0, then find the value of 'k'.
a. $-\frac{1}{4}$
b. $-\frac{5}{12}$
c. 0
d. $\frac{1}{4}$

Ans. d
Explanation:
Given:
2x 4 - 7x 3 + x + k = 0
Concept used:
if (ax - b) is a factor of a certain equation then
x = b/a
Calculation:
If (2x − 1) = 0,

x = 1/2
If (2x − 1) is a factor of p(x) then p(1/2) = 0
p(x) = 2x 4 - 7x 3 + x + k
⇒ p(1/2) = 2 × 1/16 − 7 × 1/8 + 1/2 + k = 0
⇒ 1/8 - 7/8 + 1/2 + k = 0
⇒ (1 - 7 + 4)/8 + k = 0
⇒ -2/8 + k = 0
⇒ - 1/4 + k = 0
⇒ k = 1/4
∴ Value of k is 1/4

33. Which of the following is NOT a monument in Tamil Nadu?
a. Bekal Fort
b. Meenakshi Amman temple
c. Valluvar Kottam
d. Padmanabhapuram Palace

Ans. a
Explanation:
The correct answer is Bekal Fort.
Bekal Fort was built by Shivappa Nayaka of Keladi in 1650 AD, at Bekal.
It is the largest fort in Kerala, spreading over 40 acres.

34. Which of the following states has the giant squirrel as its state animal?
a. Goa
b. Himachal Pradesh
c. Maharashtra
d. Haryana

Ans. c
Explanation:
The correct answer isMaharashtra.
Key Points
Indian Giant Squirrel (Shekaru in Marathi) is the state animal of the state of Maharashtra in western India.

35. The Non-cooperation movement was called off by Gandhiji after the

violent act of the _____.
a. Chauri Chaura
b. Rowlatt Act
c. Quit India movement
d. Khilafat movement

Ans. a
Explanation:
The correct answer isChauri Chaura.
On 1 August 1920, Gandhi started the non-cooperation movement against the government.

36. How many Bytes make a Kilobyte?
a. 960
b. 1024
c. 1440
d. 100

Ans. b
Explanation:
The correct answer is 1024
1 KB (Kilobytes) = 1024 bytes

37. Select the option that is related to the third term in the same way as the second term is related to the first term.
Almirah : Storage :: Chair : ?
a. Lying down
b. Sitting
c. Keeping items
d. Standing

Ans. b
Explanation:
The logic followed here is:-
Almirah is used for storing things.
Similarly,
The chair is used for sitting.

Hence, "option 2" is the correct answer.

38. The mean of 21 observations is 42. If out of 21 given observations, the mean of the first 11 observation is 50 and the mean of the last 11 observations is 35, then the 11th observation will be:
a. 50
b. 40
c. 35
d. 53

Ans. d
Explanation:
Given:
Mean of 21 observations is 42
Mean of 1st 11 observations= 50
Mean of last 11 observations = 35
Concept used:
Average = Sum of elements/No. of elements
Calculation:
Total of 21 observation = 42 × 21
⇒ 882
Total of 1st 11 observation = 11 × 50
⇒ 550
Total of last 11 observation = 11 × 35
⇒ 385
Total = 935
So, 11th observation = 935 - 882
⇒ 53
∴ The 11 th observation will be 53

39. Varun is three times as old as his sister. Six years hence the product of their ages will be 231. Find the Varun's present age.
a. 5 years
b. 15 years
c. 39 years
d. 13 years

Ans. b
Explanation:
Given:
Varun = 3 × Sister
Concept used:
x2 – (sum of roots)x + product of roots = 0
Calculation:
According to the question,
(V + 6) × (S + 6) = 231
⇒ (3S + 6)(S + 6) = 231
⇒ 3S2 + 18S + 6S + 36 = 231
⇒ 3S 2 + 24S - 195 = 0
⇒ S 2 + 8S - 65 = 0
⇒ S 2 + 13S - 5S - 65 = 0
⇒ S(S + 13) - 5(S + 13) = 0
⇒ (S + 13)(S - 5) = 0
⇒ S = - 13, 5
Age cannot be in negative
So age of sister = 5 years
So, age of Varun is 15 years
∴ Varun's present age is 15 years

40. Two numbers A and B are less than a third number C by 15% and 32% respectively. By what percentage is number B less than number A?
a. 80
b. 20
c. 32
d. 68

Ans. b
Explanation:
Given:
A = 15% less than C
B = 32% less than C
Concept used:
If X is a% less than Y then X = Y × (100 - a)/100
Calculation:

A = 17/20 of C
B = 17/25 of C
LCM of 20 and 25 is 100
So A = 85
B = 68
% = (85 - 68)/85 × 100
⇒ 1/5 × 100
⇒ 20%
∴ B is 20% less than A

41. Simplify. $\sqrt{56 + \sqrt{185 + 88\sqrt{\sqrt{36} + 19}}}$
a. √91
b. 3
c. 9
d. 81

Ans. c
Explanation:
Given:
$\sqrt{56 + \sqrt{185 + 88\sqrt{\sqrt{36} + 19}}}$
Concept used:
$\sqrt{a^2}$=a
Calculation:
$\sqrt{56 + \sqrt{185 + 88\sqrt{\sqrt{36} + 19}}}$
$\sqrt{56 + \sqrt{185 + 88\sqrt{6 + 19}}}$
$\sqrt{56 + \sqrt{185 + 88\sqrt{25}}}$
$\sqrt{56 + \sqrt{185 + 88 \times 5}}$
$\sqrt{56 + \sqrt{185 + 440}}$
$\sqrt{56 + \sqrt{625}}$
$\sqrt{56 + 25}$
$\sqrt{81}$

9
∴ Required answer is 9

42. Who was the Chief Minister of an Indian state and also chairperson of a prominent commission?
a. Bindheshwari Prasad Mandal
b. Bondheswari Pathak
c. Rajinder Sachar
d. Daulat Singh Kothari

Ans. a
Explanation:
The correct answer isBindheshwari Prasad Mandal.
Bindheshwari Prasad Mandal was the Chief Minister of an Indian state and also chairperson of a prominent commission.

43. A pool has 3 taps. The first tap takes 4 days, the second tap takes 2 days and the third tap takes only 12 h to fill the pool. How long will it take to fill the pool using all the three taps?
a. $6\frac{1}{2}$ **days**
b. $1\frac{1}{11}$ **h**
c. 6 days
d. $8\frac{8}{11}$ **h**

Ans. d
Explanation:
Given:
1st tap fill in 4 days
2nd tap fill in 2 days
3rd tap fill in 12 hours
Concept used:
If a tap can fill a tank alone in x hours, then the efficiency (part of the work completed in one hour) = 1/x
Calculation:
The efficiency of taps = 1/4, 1/2, and 2
One day work of all taps together = 1/4 + 1/2 + 2

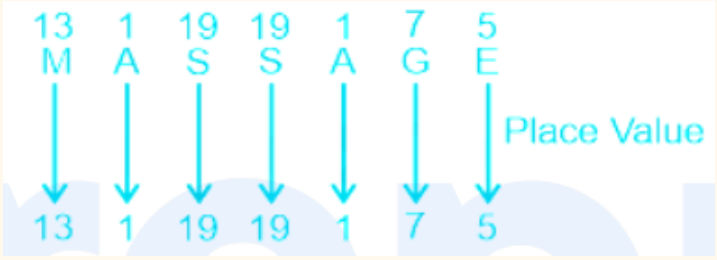
⇒ 11/4
So three taps will take 4/11 days to fill the tank
4/11 × 24 = 96/11 h [We need to convert days into hours]
⇒$8\frac{8}{11}$ h
∴ It will take $8\frac{8}{11}$hours to fill the pool using all three taps

44. Who was the first woman of Indian descent to go to space?
a. Kalpana Chawla
b. Nalini Ramarajan
c. Shawna Pandya
d. Sunita Willianms

Ans. a
Explanation:
The correct answer isKalpana Chawla.
Kalpana Chawla was the first woman of Indian origin to go to space.

45. If A is equal to 1, S is equal to 19 and G is equal to 7, how would you spell 'MASSAGE'?
a. 1311919175
b. 1311945375
c. 1311945355
d. 1311919277

Ans. a
Explanation:
The logic followed here is:-
If A is equal to 1, S is equal to 19 and G is equal to 7 that means we put the place value of the letter, which is given below:-



Hence, "option 1" is the correct answer.

46. Select the Venn diagram that best represents the relationship between Musical Instruments, Drums and Flute .

a. 

b. 

c. 

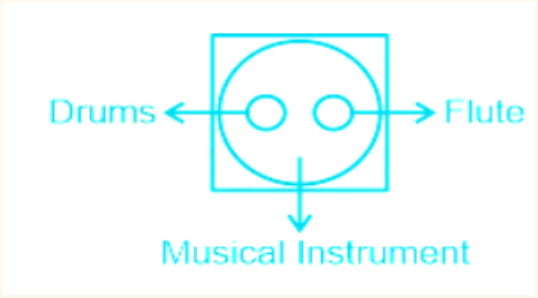
d. 

Ans. c

Explanation:

Drums and flute both are musical instruments but no drums is flute.

The Venn diagram that best represents the relationship between Musical Instruments, Drums and Flute are given below:-



Hence, "option 3" is the correct answer.

47. In which year did the Pulwama terror attack take place?

a. 2019

b. 2017

c. 2016

d. 2018

Ans. a
Explanation:
The correct answer is2019.
The Pulwama attack took place on 14 February 2019.

48. By selling an article for Rs.1,785, a dealer loses 15%. At what price should he sell the article to gain 15%?
a. Rs.2,100
b. Rs.2,205
c. Rs.2,415
d. Rs.1,785

Ans. c
Explanation:
Given:
SP = Rs. 1785
Concept used:
SP = CP × (100 - loss%)/100
SP = CP × (100 + profit%)/100
Calculation:
CP of the article = 1785 × 20/17
⇒ Rs. 2100
SP should be 2100 × 23/20
⇒ Rs. 2415
∴ To gain 15% he should sell it at Rs. 2415

49. In 1857, the last ruler of the Mughal dynasty _____ was overthrown by the British.
a. Bahadur Shah Zafar
b. Nasiruddin Humayun
c. Jalaluddin Akbar
d. Zahiruddin Babar

Ans. a
Explanation:

The correct answer isBahadur Shah Zafar.

50. Simplify: $\frac{(542+321)^2-(542-321)^2}{542\times321}$

a. 1

b. 4

c. $\frac{1}{271}$

d. $\frac{642}{321}$

Ans. b

Explanation:

Given:

$\frac{(542+321)^2-(542-321)^2}{542\times321}$

Formula used:

(a + b)2 = a2+ b2+ 2ab

(a - b) 2 = a 2 + b 2 - 2ab

Calculation:

$\frac{(542+321)^2-(542-321)^2}{542\times321}$

$\frac{(542)^2+(321)^2+2\times542\times321-(542)^2-(321)^2+2\times542\times321}{542\times321}$

⇒ (4 × 542 × 321)/542 × 321

⇒ 4

∴ Required answer is 4

51. Video Graphics Array (VGA) is a system for displaying colour graphics. It was developed by:

a. IBM

b. Macintosh

c. Apple

d. Microsoft

Ans. a

Explanation:

The correct answer isIBM.

Video Graphics Array (VGA) is a system for displaying color graphics. It was developed by IBM.

52. The radius of a spherical balloon increases from 5 cm to 10 cm when more air is pumped into it. The ratio of the surface area of the original balloon and that of the inflated balloon is:
a. 1 : 2
b. 1 : 8
c. 1 : 4
d. 2 : 1

Ans. c
Explanation:
Given:
Radius r 1= 5 cm
Radius r 2 = 10 cm
Formula used:
The surface area of a sphere = 4πr 2
Calculation:
Initial surface area (r 1= 5) = 4πr 1
2
⇒ 4 × 22/7 × 25
⇒ (2200/7) cm 2
New surface area (r 2= 10) = 4πr 2
2
⇒ 4 × 22/7 × 10 × 10
⇒ (8800/7) cm 2
Ratio of surface area = (2200/7) cm 2 : (8800/7) cm 2
⇒ 1 : 4
∴ Required ratio is 1 : 4

53. A special bank account meant for the girl child and launched as a part of the Beti Bachao Beti Padhao Campaign is known as:
a. Sukanya Samriddhi
b. Kanya Dhan
c. Kanyashree
d. Dhanalakshmi

Ans. a
Explanation:
The correct answer is Sukanya Samriddhi.
A special bank account known as Sukanya Samriddhi was launched as a part of the Beti Bachao Beti Padhao campaign.

54. A good indicator of economic growth is steady increase in the _____.
a. VAT
b. GDP
c. GST
d. STC

Ans. b
Explanation:
The correct answer is GDP.
A good indicator of economic growth is a steady increase in the GDP.

55. The UN was founded as a successor to the League of Nations in 1945 _____.
a. right before the Second World War
b. right before the First World War
c. immediately after the First World War
d. immediately after the Second World War

Ans. d
Explanation:
The correct answer is immediately after the Second World War.
The UN was founded as a successor to the League of Nations in 1945 immediately after the Second World War.

56. Two numbers are in the ratio 3 : 2. If 8 is subtracted from the first number and 6 subtracted from the second number, the ratio becomes 5 : 4. The numbers are:
a. 2, 3
b. 3, 2
c. 24, 16
d. 16, 24

Ans. b
Explanation:
Given:
Ratio of number = 3 : 2
Concept used:
Concept of ratio and proportion
Calculation:
Let number are 3x and 2x
According to the question,
(3x - 8)/(2x - 6) = 5/4
⇒ 12x - 32 = 10x - 30
⇒ 2x = 2
⇒ x = 1
So, numbers are 3 and 2
∴ The numbers are 3, 2

57. Home Decor shop marked every item 30% higher than the actual cost price. The owner offers 10% discount on the marked price of each item. If a Sofa set is sold for Rs.23,400, how much profit did he earn?
a. Rs.3,400
b. Rs.20,000
c. Rs.3,978
d. Rs.18,000

Ans. a
Explanation:
Given:
SP of sofa = Rs. 23400
Discount % = 10%
Concept used:
Profit = SP - CP
SP = MP × (100 - Discount%)/100
Calculation
According to the question,
CP = 23400 × 100/90× 100/130
⇒ Rs. 20000
So, profit = 23400 - 20000

⇒ Rs. 3400
∴ He earned Rs. 3400

58. Select the option in which the words share the same relationship as that shared by the given pair of words.
Kiwi : Fruit :: Zuchhini : ?
a. Spice
b. Vegetable
c. Herb
d. Fruit

Ans. b
Explanation:
The logic followed here is:
Kiwi is a fruit.
Similarly,
Z uchhini is a vegetable.
Hence, the correct answer is "Vegetable".

59. The first woman to serve as the President of India was:
a. Sucheta Kriplani
b. Sumitra Mahajan
c. Rajkumari Amrit Kaur
d. Pratibha Patil

Ans. d
Explanation:
The correct answer is Pratibha Patil.
The first woman to serve as the President of India was Pratibha Patil.

60. Select the number that can replace the question mark (?) in the following series.
5, 12, 19, 26, ?
a. 44
b. 33
c. 43
d. 34

Ans. b
Explanation:
The logic followed here is:-
We add 7 in the first number and get second number, then we add 7 in second number we get third number and so on.

Hence, "option 2" is the correct answer.

61. What does OCR stand for?
a. Optical Character Recognition
b. Optimum Computer Recording
c. Optical Computer Recording
d. Optimum Colour Recognition

Ans. a
Explanation:
The correct answer is Optical Character Recognition.
OCR stands for Optical Character Recognition.

62. Which award did Pranab Mukherjee receive in 2019?
a. Padma Vibhushan
b. Bharat Bhushan
c. Bharat Ratna
d. Padma Bhushan

Ans. c
Explanation:
The correct answer is Bharat Ratna.
Pranab Mukherjee received Bharat Ratna in 2019

63. GSLV stands for:
a. Global Stationary Launching Vehicle
b. Geosynchronous Satellite Launching Vehicle
c. Global Satellite Launch Vehicle

d. Geosynchronous Satellite Launch Vehicle

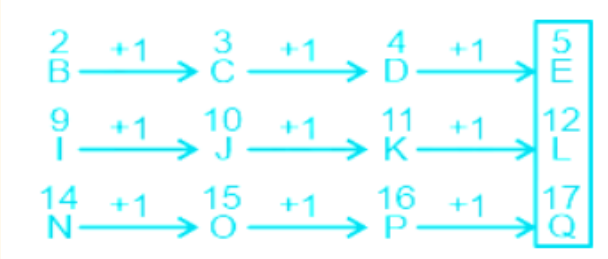
Ans. d
Explanation:
The correct answer is Geosynchronous Satellite Launch Vehicle.
GSLV stands for Geosynchronous Satellite Launch Vehicle.

64. What is the scientific name of the 'Touch-Me-Not' plant?
a. Mimosa verrucosa
b. Mimosa Loxensis
c. Mimosa pudica
d. Mimosa townsendii

Ans. c
Explanation:
The correct answer is Mimosa pudica.
Mimosa pudica is the scientific name of the 'Touch-Me-Not' plant.

65. Select the letter-cluster that can replace the question mark (?) in the following series.
BIN, CJO, DKP, ?
a. LPN
b. ELQ
c. WVI
d. SFY

Ans. b
Explanation:
The logic followed here is:-
We add 1 in each letter of word.



Hence, "option 2" is the correct answer.

66. As of October 2020, which was NOT a Maharatna?
a. National Thermal Power Corporation
b. Steel Authority of India Limited
c. Oil and Natural Gas Corporation
d. Hindustan Aeronautics Limited

Ans. d
Explanation:
Hindustan Aeronautics Limited was NOT a Maharatna as of October 2020.

67. _____ is the first reserve forest of India.
a. Jim Corbett National Park
b. Ranthambore National Park
c. Satpura National Park
d. Gir National Park

Ans. c
Explanation:
The correct answer is Satpura National Park.
Satpura National Park is the first reserve forest of India.

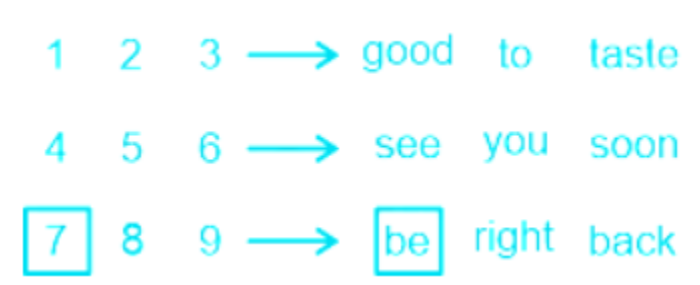
68. The number of bones in an adult human body is:
a. 206
b. 156
c. 16
d. 296

Ans. a
Explanation:
The correct answer is 206.
The number of bones in an adult human body is 206.

69. In a certain code language-
'123' means 'good to taste'
'456' means 'see you soon'

'789' mean 'be right back'
Which of the following numbers stands for 'be' in that language?
a. 9
b. 1
c. 4
d. 7

Ans. d
Explanation:
The logic followed here is:-
Each number and word coded on the same place, which is given below:-



7 stands for 'be' in that language.

70. The female Anopheles mosquito is a transmitter of:
a. malaria
b. dengue
c. cholera
d. typhoid

Ans. a
Explanation:
The correct answer is malaria .
The female Anopheles mosquito is a transmitter of malaria.

71. HCF of $2^4 \times 3^4 \times 5^3 \times 7^2$ **and** $2^2 \times 3^6 \times 5^5$
a. $2^2 \times 3^4 \times 5^3$
b. $2^6 \times 3^{10} \times 5^8 \times 7^2$
c. $2^3 \times 3^5 \times 5^4 \times 7$

d. $2^2 \times 3^2 \times 5^3 \times 7^2$

Ans. a
Explanation:
Given:
$2^4 \times 3^4 \times 5^3 \times 7^2$ and $2^2 \times 3^6 \times 5^5$
Concept used:
HCF by Prime Factorization Method
Calculation:
$2^4 \times 3^4 \times 5^3 \times 7^2$ and $2^2 \times 3^6 \times 5^5$
If we calculate the HCF of these two numbers
then we can see highest common factors are $2^2 \times 3^4 \times 5^3$
∴ Required HCF is $2^2 \times 3^4 \times 5^3$

72. According to question, who has the ultimate command of the Union Defense Forces?
a. Minister of Defense
b. President
c. Prime Minister
d. Chief of Army Staff

Ans. b
Explanation:
The correct answer isPresident.
President has the ultimate command of the Union Defense Forces.

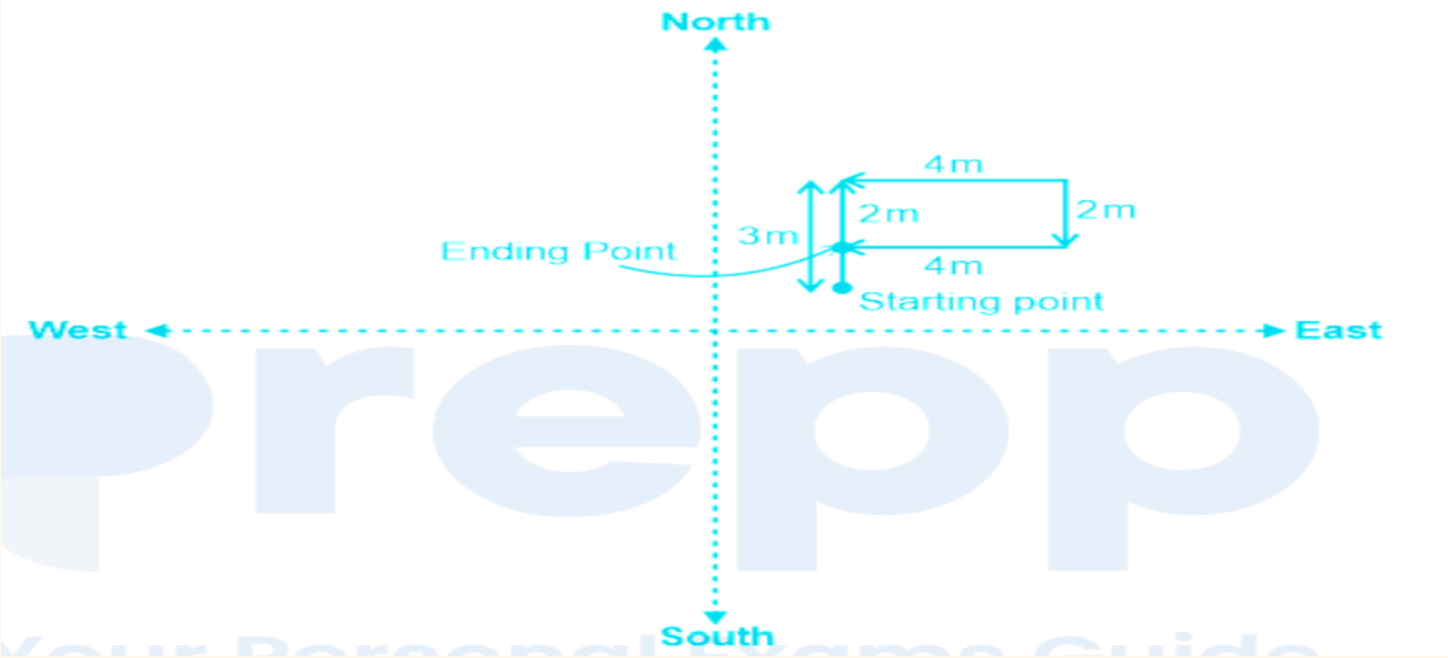
73. How much is the premium payable for the annual commercial/horticulture crops under the Pradhan Mantri Fasal Bima Yojana, as a percentage of the sum insured/actuarial rate?
a. 6 percent
b. 1 percent
c. 5 percent
d. 7 percent

Ans. c
Explanation:

The correct answer is 5 percent.
The premium payable for the annual commercial/horticulture crops under the Pradhan Mantri Fasal Bima Yojana, as a percentage of the sum insured/actuarial rate, is 5 percent.

74. Rakhi goes 3 meters North then turns right and walks 4 meters, then again turns right and walks 2 meters, then a again turns right and walks 4 meters. How many meters is she from her original position?
a. 1
b. 2
c. On the starting point or 0
d. 4

Ans. a
Explanation:
Given that:-
Rakhi goes 3 meters North then turns right and walks 4 meters, then again turns right and walks 2 meters, then a again turns right and walks 4 meters.
The figure is given below:-



Thus she is 1 meterfrom her original position.
Hence, "option 1" is the correct answer.

75. The largest number which divides 55, 72 and 123 leaving the remainders 3, 7 and 6 respectilvely is:
a. 117
b. 26
c. 13
d. 66

Ans. c
Explanation:
Given:
Numbers = 55, 72, 123
Remainders = 3, 7, 6
Concept used:
H.C.F of certain numbers
Calculation:
55 - 3 = 52
72 - 7 = 65
123 - 6 = 117
H.C.F of 52, 65, 117
⇒ 52 = 13 × 2
2
⇒ 65 = 13 × 5
⇒ 117 = 13 × 3
3
So H.C.F = 13
∴ The largest number which divides the numbers is 13

76. Sixteen men can complete a work in 24 days. Twenty four women can complete the same work in 32 days. Sixteen men and sixteen women together worked for twelve days, after which women dropped. How many more men are to be taken to complete the remaining work in 2 days?
a. 32
b. 24
c. 48
d. 64

Ans. a

Explanation:
Given:
Sixteen men can complete a work in 24 days
Twenty four women can complete the same work in 32 days
Concept used:
x man can complete a work in n days
So total work = xn
Calculation:
24 men can complete the work in 16 days
1 man can complete the work in =16 × 24
⇒ 384 days
32 women can complete the work in 24 days
1 woman can complete the work in = 32 × 24
⇒ 768 days
Ratio between man and woman =384 : 768 =1 : 2
then 1 man = 2 women
16 women = 8 men
So, the number of men complete the work in 12 days = 16 + 8 = 24 men
Since 24 men takes 16 days to complete the work
So, after 12 days, 4 days' work will be left for 24 Men
So, the work left can be completed in 2 days by =4/2 × 24
⇒ 48 days
Additional men required to complete the work in 2 days =48 – 16 = 32 men
∴ More 32 men is required to complete the work in 2 days

77. In a 200 m race, Shruti runs at the speed of 4 km/h. Shruti gives a start of 18 m to Veena and still beats her by 30s. What is Veena's speed?
a. 4.36 km/h
b. 3.12 km/h
c. $\frac{7}{24}$km/h
d. $\frac{24}{7}$km/h

Ans. b
Explanation:
Given:

Total distance = 200 m
Speed of Shruti = 4 km/h
Concept used:
Speed = Distance/time
km/h × 5/18 = m/sec
Calculation:
Speed of Shruti in m/sec = 4 × 5/18
⇒ 10/9 m/sec
Time taken by Shruti to cover 200 m = 200 × 9/10
⇒ 180 sec
Time taken by Veena to complete the race = 180 + 30 = 210 sec
Distance cover by Veena = 200 - 18 = 182 m
Speed of Veena = 182/210 × 18/5
⇒ 3.12 km/h
∴ Veena's speed is 3.12 km/h

78. As of October 2020, who is the current Secretary General of the UN?
a. Antonio Guterres
b. Ban Ki Moon
c. Boutros Boutros-Ghali
d. Kofi Annan

Ans. a
Explanation:
The correct answer is Antonio Guterres.
Antonio Guterres is the current Secretary-General of the UN.

79. _____ built the Taj Mahal Palace Hotel at Mumbai by integrating Indian and European styles.
a. RD Tata
b. Ratan Tata
c. Jamsetji Tata
d. JRD Tata

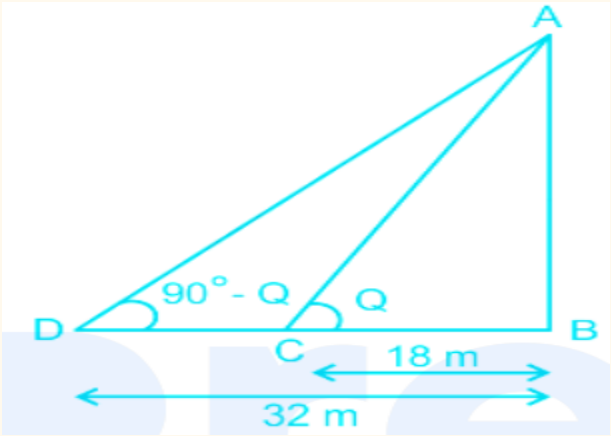
Ans. c
Explanation:
The correct answer is Jamsetji Tata.

Jamsetji Tata built the Taj Mahal Palace Hotel in Mumbai by integrating Indian and European styles.

80. The angles of elevation of the top of the tower from two points on the ground at a distance of 18 m and 32 m from the foot of a tower are complementary. The height of the tower is

a. 32 m
b. 20 m
c. 24 m
d. 36 m

Ans. c
Explanation:
Given:
Two points 18m and 32m from the base of a tower.
Formula used:
Tanθ = Perpendicular/Base
Cotθ = 1/Tanθ
Calculation:
According to the question



In Δ ABC
Tan Q = AB/BC
⇒ Tan Q = AB/18 ----(1)
In Δ ADB
⇒ Tan(90 - Q) = AB/DB
⇒ Cot Q = AB/32
⇒ 1/Cot Q = 32/AB

⇒ Tan Q = 32/AB ----(2)
Put equation 1 in equation 2
⇒ AB/18 = 32/AB
⇒ AB
2 = 32 × 18
⇒ AB = 24 m
∴ The height of the tower is 24 m.

81. Name the major river that flows through the Union Territory of Dadra and Nagar Haveli.
a. Pinjal
b. Narmada
c. Damanganga
d. Par

Ans. c
Explanation:
The correct answer is Damanganga.
Damanganga is the major river that flows through the Union Territory of Dadra and Nagar Haveli.

82. It is a joint venture between the big industrialists to establish a planned economy in the country after _____ independence.
a. Madras Plan
b. Cole Plan
c. Delhi Plan
d. Bombay Plan

Ans. d
Explanation:
The correct answer isBombay plan.
It is a joint venture between the big industrialists to establish a planned economy in the country after Bombay plan independence.

83. The salt satyagraha is notable for at least three reasons. Which of the following is not one of them?
a. the young population in India began to attend schools X4 was the

first
b. It bought Mahatma Gandhi to the world's attention.
c. nationalist movement in which a large number of women participated.
d. The British had to realize that their monarchy would not last forever.

Ans. a
Explanation:
The correct answer is the young population in India began to attend schools X4 was the first.

84. Which country is NOT a member of OPEC?
a. Venezuela
b. Algeria
c. Nigeria
d. Kenya

Ans. d
Explanation:
The correct answer is Kenya.
Kenya is NOT a member of OPEC.

85. If the mode of the following data is 12, then find the value of k.
11, 15, 8, 9, k, 11, 12, 12, 15, 14
a. 12
b. 15
c. 13
d. 11

Ans. a
Explanation:
Given:
11, 15, 8, 9, k, 11, 12, 12, 15, 14
Concept used:
The mode is the value that occurs the most often in a given set of data.
Calculation:
In the data set provided here, the mode is 12, hence 12 should occur the most number

of times.
11, 15, 8, 9, k, 11, 12, 12, 15, 14
Excluding k and arranging these numbers in ascending order,
8,9,11,11,12,12,14,15,15
Here 11, 12, and 15 are occurring twice.
Since 12 is the mode, it should occur more than twice.
∴ The value of k should be 12.

86. The table given below gives data for wheat production (in lakh tonnes) for 5 states, from the year 2015 to 2019. Study the data given in the table and answer the question below it.

Year / State	2015	2016	2017	2018	2019
A	8	10	9	11	11
B	11	12	10	9	8
C	12	13	14	11	14
D	6	8	8	9	7
E	18	17	15	16	14

From 2015-2019, which state contributed the least to the total production of wheat?
a. A

b. C
c. D
d. B

Ans. c
Explanation:
Total product in state A = 8 + 10 + 9 + 11 + 10
⇒ 49
Total production in state B = 11 + 12 + 10 + 9 + 8
⇒ 50
Total production in state C = 12 + 13 + 14 + 11 + 14
⇒ 60
Total production in state D = 6 + 8 + 8 + 9 + 7
⇒ 38
Total production in state D = 18 + 17 + 15 + 16 + 14
⇒ 80
∴ State D contributed the least to the total production of wheat

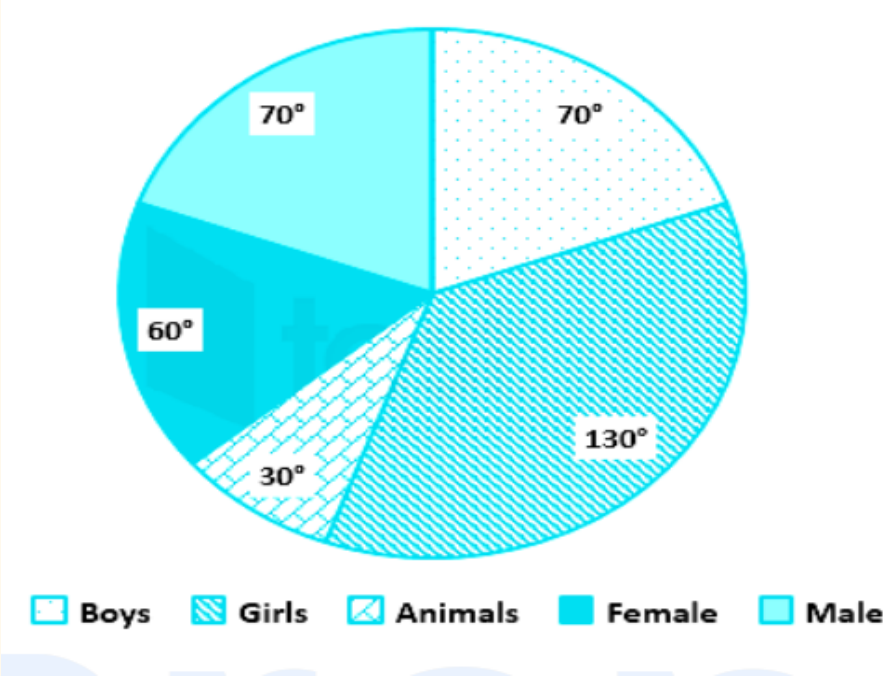
87. The table given below gives data for wheat production (in lakh tonnes) for 5 states, from the year 2015 to 2019. Study the data given in the table and answer the question below it.

Year / State	2015	2016	2017	2018	2019
A	8	10	9	11	11
B	11	12	10	9	8
C	12	13	14	11	14
D	6	8	8	9	7
E	18	17	15	16	14

In 2015, which state contributed close to 1/3 rd of the total production of all the five states?
a. A
b. B
c. E
d. C

Ans. c
Explanation:
Total production of all states in 2015 = 8 + 11 + 12 + 6 + 18
⇒ 55
So 1/3 rd of 55 = 18.33
∴ State E is close to 1/3 rd of the total production of all states in 2015

88. The following pie chart shows the population of a town.



If the total population of the town is 720000, then the number of animals in the town is:
a. 30000

b. 40000
c. 60000
d. 50000

Ans. c
Explanation:
According to the question
Animals are 1/12th part of the town's population [30°/360° = 1/12]
So Animals = 720000 × 1/12
⇒ 60000
∴ The number of animals in the town is 60000

89. The table given below gives data for wheat production (in lakh tonnes) for 5 states, from the year 2015 to 2019. Study the data given in the table and answer the question below it.

Year / State	2015	2016	2017	2018	2019
A	8	10	9	11	11
B	11	12	10	9	8
C	12	13	14	11	14
D	6	8	8	9	7
E	18	17	15	16	14

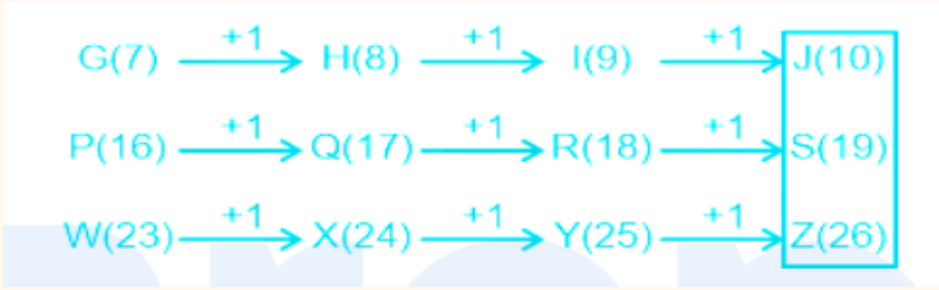
In which state was there a continuous and fixed increase in production,

from the year 2015 to 2017?
a. A
b. D
c. B
d. C

Ans. d
Explanation:
In state C there was a continuous fixed increase in production
12, 13, 14
∴ In state C there was a continuous and fixed increase in production, from the year 2015 to 2017

90. Select the letter-cluster than can replace the question mark (?) in the following series.
GPW, HQX, IRY, ?
a. JSZ
b. THU
c. ERD
d. MNF

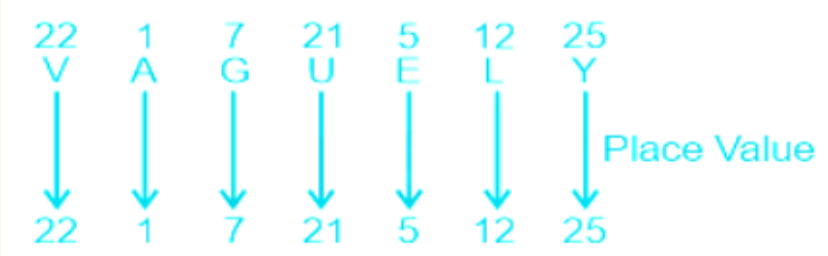
Ans. a
Explanation:
The logic followed here is:-
We add 1 in each letter.



Hence, "option 1" is the correct answer.

91. If A is equal to 1, V is equal to 22 and E is equal to 5, how would you spell 'VAGUELY'?
a. 22172151225
b. 21172151225
c. 21171215225
d. 22171215225

Ans. a
Explanation:
The logic followed here is:-
We put the place value of each letter.
Given A → 1, V → 22, E → 5



Hence, "option 1" is the correct answer.

92. Select the number from among the given options that can replace the question mark (?) in the following series.
4, 27, 256, ?
a. 2315
b. 1235
c. 3125
d. 5321

Ans. c
Explanation:
The logic followed here is:-

Hence, "option 3" is the correct answer.

93. What is the smallest number of birds that could fly in the formation described below, assuming that each is counted only once to fulfill all the conditions listed?
Two birds in front of a bird, two birds behind a bird and a bird between two birds.
a. 7
b. 3
c. 5
d. 4

Ans. c
Explanation:
Assuming that each is counted only once to fulfil all the conditions listed:
Two birds in front of a bird.

That means there are two birds here.
Two birds behind a bird.

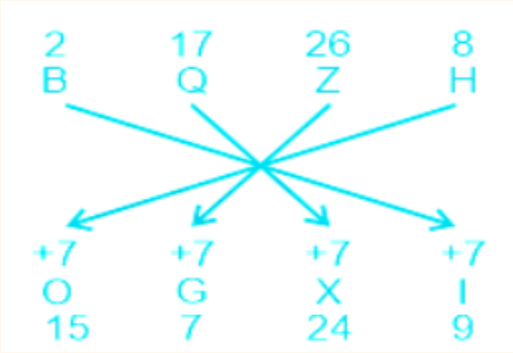
That means two more birds are there.
A bird between two birds.

That means one more bird is there.

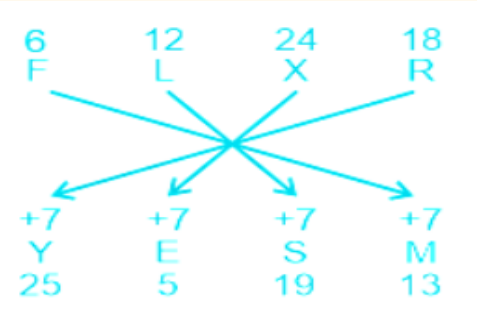
So, total number of birds = 2 + 2 + 1 = 5
Hence, "option 3" is the correct answer.

94. Select the pair of letter clusters from among the given options that has the same relationship as the one given below:
BQZH : OGXI : : ?
a. SQMN : UTWZ
b. WHLK : RTID
c. FLXR : YESM
d. PNML : STWW

Ans. c
Explanation:
The logic followed here is:-
In the first letter, we add 7 and shift to the fourth letter, then in the second letter, we add 7 and shifted to the third letter and so on.
BQZH → OGXI



Similarly,
From option 3:-



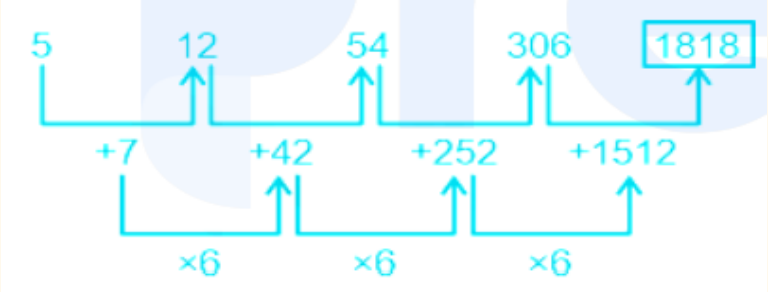
Hence, "option 3" is the correct answer.

95. If AVERY is coded as 71 then AMANDA will be coded as _____
a. 54
b. 43
c. 64
d. 34

Ans. d
Explanation:
The logic followed here is:-
We add all the place value of letter.
A(1) V(22) E(5) R(18) Y(25) = 1 + 22 + 5 + 18 + 25 = 71
Similarly,
A(1) M(13) A(1) N(14) D(4) A(1) = 1 + 13 + 1 + 14 + 4 + 1 = 34
Hence, "option 4" is the correct answer

96. Select the number that can replace the question mark (?) in the following series.
5, 12, 54, 306, ?
a. 1008
b. 1818
c. 2734
d. 2460

Ans. b
Explanation:
The logic followed here is:-



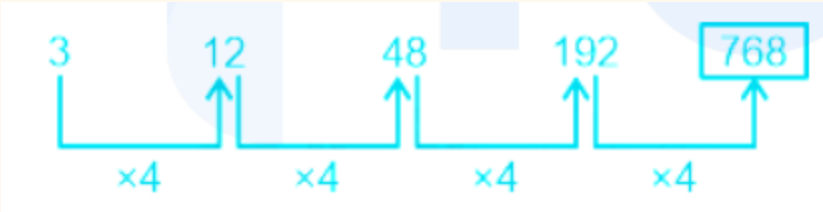
Hence, "option 2" is the correct answer.

97. If RAHUL is coded as 60 then RAJESH will be coded as _____.
a. 71
b. 61
c. 41
d. 51

Ans. b
Explanation:
The logic followed here is:-
We add all the place value of letter.
R(18) A(1) H(8) U(21) L(12) = 18 + 1 + 8 + 21 + 12 = 60
Similarly,
R(18) A(1) J(10) E(5) S(19) H(8) = 18 + 1 + 10 + 5 + 19 + 8 = 61
Hence, "option 2" is the correct answer.

98. Select the number that can the question mark (?) in the following series.
3, 12, 48, 192, ?
a. 768
b. 687
c. 876
d. 786

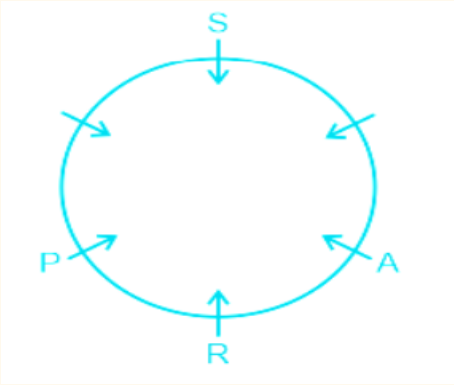
Ans. a
Explanation:
The logic followed here is:-



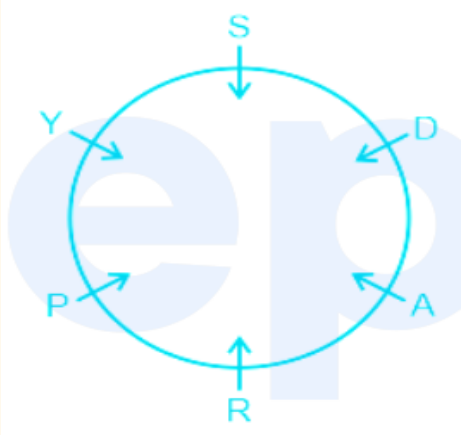
Hence, "option 1" is the correct answer.

99. Six persons are playing a card game. They are sitting in a circle facing the centre. S is facing R who is to the left of A and to the right of P. A is to the left of D and Y is to the left of P.
If D exchanges his seat with Y and P exchanges his seat with R, who will be sitting to the left of D?
a. Y
b. R
c. P
d. S

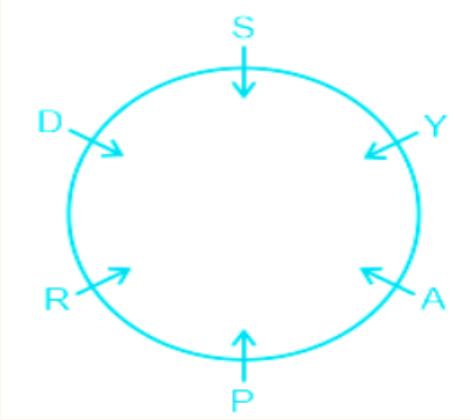
Ans. d
Explanation:
Given that:-
Six persons are playing a card game. They are sitting in a circle facing the centre
1) S is facing R who is to the left of A and the right of P.
Here who is used for R not for S. So S is facing R and R is to the left of A and the right of P.



2) A is to the left of D and Y is to the left of P.



If D exchanges his seat with Y and P exchanges his seat with R,
Then the final arrangement is given below:-

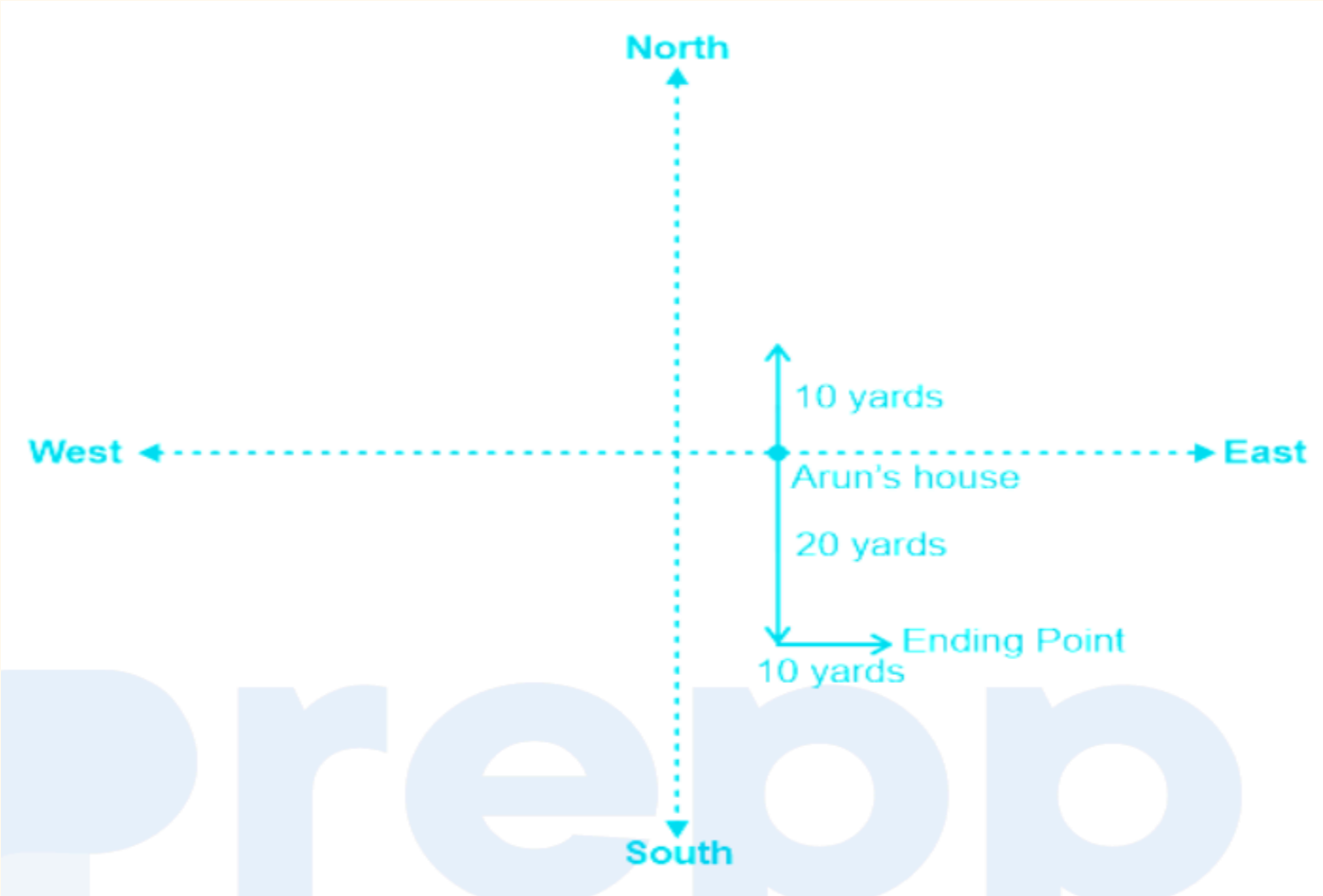


Thus S is sitting to the left of D.
Hence, "option 4" is the correct answer.

100. Arun walks 10 yards straight from his house which is facing north and then he walks 20 yards in the reverse direction. Further he takes a left turn and walks 10 yards. In which direction is Arun now from his original position?
a. South-east
b. North-east
c. South-west
d. North-west

Ans. a
Explanation:

Given that:-
Arun walks 10 yards straight from his house which is facing north and then he walks 20 yards in the reverse direction.
Further, he takes a left turn and walks 10 yards.
The figure is given below:-



Arun is South-East direction now from his original position.
Hence, "option 1" is the correct answer.