Free Mock Test

Q 1. Which of the following is a perfect number?

1. 64
2. 32
3. 28
4. 18

Q 2. In a farm, there are 50 ducks, 45 sheeps and 8 horses with some farmers. If the total number of feet be 224 more than the number of heads, find the number of farmers.

1. 10
2. 15
3. 45
4. 32

Q 3. Tom reads at an average rate of 30 pages per hour, while Jane reads at an average rate of 40 pages per hour. If Tom starts reading a novel at 4:30 and Jane begins reading an identical copy of the same book at 5:20, then at what time they will be reading the same page?

1. 8:00 PM
2. 9:10 PM
3. 7: 50 PM
4. 6:15 PM

Q 4. $999 \times 99 \times 9 \div 99 \div 9 \div 3 = ?$

1. 777
2. 666
3. 1230
4. 333

Q 5. The mean monthly salary paid to graduate students of engineering college is Rs 35,000. The mean monthly salary paid to students with work experience is Rs 42,000/-. The corresponding mean monthly salary paid to students without work experience is Rs 28,000/- Determine the percentage of students with work experience and those without work experience in the class.

1. 53.33% , 46.67%
2. 23.67%, 79.89%
3. 20%, 80%
4. 30%, 70%

Q 6. If a number of two digits is 'k' times the sum of its digits, then the number formed by interchanging the digits is the sum of the digits multiplied by

1. 11 - k
2. K + 12
3. K - 16
4. 20 + k

Q 7. A basket contains 4 red, 5 blue, and 3 green marbles. If three marbles are picked up at random what is the probability that at least one is blue.

1. 27 / 44
2. 37 / 44
3. 25 / 67
4. 12 / 37

Q 8. A speaks the truth in 60% cases and B speaks the truth in 70% cases. What is the probability that they will say the same thing while describing a single event is

1. 27 / 50
2. 34 / 100
3. 23 / 75
4. 22 / 77

Q 9. A man at the top of a vertical observation tower observes a car moving at a uniform speed coming directly towards it. If it takes 12 minutes for the angle of depression to change from $30°$ to $45°$ how soon will the car reach the observation tower?

1. 15 min 23 sec
2. 13 min 25 sec
3. 16 min 23 sec
4. 20 min

Directions (10 - 14): Rearrange the given 5 sentences in a proper sequence so as to form a meaningful paragraph

1. There is no obvious choice for that role, however. Donald Tusk, the outgoing European Parliament president who formerly served as Poland's Prime Minister, has been all but forgotten, judging by his weak showing in opinion polls. Nonetheless, the opposition still has time to get organised.

2. Is populism in Central and Eastern Europe finally losing its momentum? In Poland, opposition parties won the Senate, and the ruling Law and Justice (PiS) party's share of vote slipped to 43.7% from 45.5% in European Parliament elections this past May.

3. And in Hungary's local elections, the opposition retook power in Budapest and won mayoral races in 10 other cities. The question now rises is whether these results augur a broader political shift in the region.

4. The PiS's retention of power in the Sejm - the lower and more powerful chamber of Poland's Parliament - is undeniably a significant success. But the Party's strongman leader, Jaroslaw Kaczynski, was clearly expecting a better result. The PiS's loss of senate means that it can no longer ram through controversial legislation without any real debate (though its 235 votes in the Sejm will still allow it to override Senate vetoes.)

5. The Polish opposition now has a chance to prove itself. Overall, opposition parties received 900,000 more votes than PiS's combined total. That means a narrow majority of the electorate is on the opposition's side, and could deliver a victory for a common opposition candidate in the Presidential election next spring.

Q 10. Which of the following is the 4th sentence?

1. 1
2. 3
3. 4
4. 5

Q 11. Which of the following is the 2nd sentence?

1. 4
2. 2
3. 5
4. 3

Q 12. Which of the following is the 3rd sentence?

1. 1
2. 4
3. 3
4. 2

Q 13. Which of the following is the 1st sentence?

1. 2
2. 4
3. 1
4. 5

Q 14. Which of the following is the last sentence?

1. 5
2. 2
3. 3
4. 1

Directions (15 - 19): Fill in the blanks with the appropriate word.

The late Alan Clark, a British politician of the Margaret Thatcher era, chiefly known for his womanizing and his hard-right views, once ------(15)---- to me the decline of the British fighting spirit that built empires and won wars. Half in jest, I suggested that this aggressive ----(16) ----- was still there among British soccer hooligans who ----(17)--- stadiums and foreign towns. He replied with a dreamy look in his eyes that this was indeed something that "might be usefully tapped." What seemed a trifle outrageous then is now painfully real. For the hooligan, the spirit is indeed being tapped. Right-wing terrorism is increasing in the United Kingdom - even as religious violence is ----(18)----. In the US the extreme right-wing groups have caused ---- (19) ---- in such places as Charlottesville and Pittsburg.

Q 15.

1. Lamented
2. Chortled
3. Chuckled
4. Hooted

Q 16.

1. Disposition
2. Anitpathy
3. Aversion
4. Distaste

Q 17.

1. Safeguard
2. Ransack
3. Bestow
4. Yield

Q 18.

1. Rejuvenation
2. Resuscitation
3. Ebbing
4. Revivification

Q 19.

1. Hovering
2. Construction
3. Levitation
4. Havoc

Q 20. Find the next number in the series.

4, 8, 17, 33, 69, 133, 277, ?

1. 322
2. 533
3. 456
4. 623

Q 21. Find the next number in the series.

3, 6, 14, 29, 53, 88, 136, ?

1. 199
2. 270
3. 189
4. 179

Directions (22 - 25): Read the following information and answer the questions given below.

Consider a group comprising 4 colleagues - Ram, Beckham, Maldini, and Nesta, who stand in a row. Ram and Beckham stand in 6th and 7th positions respectively from the left. Maldini and Nesta stand in the 4th and 5th positions respectively from the right. When Beckham and Maldini exchange their positions, then Beckham will be 15th from the left.

Q 22. Originally, Nesta's position from the left is

1. 14

2. 10
3. 16
4. 15

Q 23. Ram's position in the right is

1. 15
2. 13
3. 12
4. 8

Q 24. If Nesta and Ram also exchange their positions between themselves, then after the exchange, Nesta's position from the left will be

1. 2
2. 9
3. 6
4. 4

Q 25. After the exchange of positions between Beckham and Maldini, Maldini position from the right is

1. 10
2. 7
3. 12
4. 11

Answer Keys

Q 1. 3	Q 2. 2	Q 3. 3	Q 4. 4	Q 5. 1
Q 6. 1	Q 7. 2	Q 8. 1	Q 9. 3	Q 10. 4
Q 11. 4	Q 12. 2	Q 13. 1	Q 14. 1	Q 15. 1
Q 16. 1	Q 17. 2	Q 18. 3	Q 19. 4	Q 20. 2
Q 21. 1	Q 22. 1	Q 23. 2	Q 24. 3	Q 25. 4

Solution 1:

A number is a Perfect number when sum of its factors except the number itself is equal to the number.

The factors of 64 are 1,2,4,8,16,32. Sum of the factors is not equal to 64.

The factors of 32 are 1,2,4,8,16,32. Sum of the factors is not equal to 32.

The factors of 28 are 1,2,4,7,14. Sum of the factors is 1 + 2 + 4 + 7 + 14 = 28

Hence 28 is the perfect number.

Solution 2:

Let the number of farmers be 'a'

Hence,

Total number of heads

= (50 + 45 + 8 + a)

= (103 + x)

Total number of feet

= (45 + 8) $\times$ 4 [since there are 45 sheeps and 8 horses, each having 4 legs] + (50 + x) $\times$ 2

= 53 $\times$ 4 + 100 + 2x

= 312 + 2x

= (312 + 2x)

As per the question, there are 224 more feet than heads.

(312 + 2x) - (103 + x) = 224

X = 15.

Hence the number of farmers are 15.

Solution 3:

Let us consider they start reading the same page 'x' hours after 5:20.

Time from 4:30 to 5:20 = 50 min

50 min is 5/6th of an hour.

Then,

30 (x + ⅚) = 40 x

10 x = 25

X = 2.5 hours.

Hence both of them start reading the same page 2 hr 30 min after 5:20 i.e. 7:50 PM

Solution 4:

9 ÷ 99 ÷ 9

= (9 / 99) ÷ 9

= (9 / 99) ✕ (1 / 9)

(9 / 99) ✕ (1 / 9) ÷ 3

(9 / 99) ✕ (1 / 9) ✕ (1 / 3)

Hence we can rewrite the expression in the question as,

999 ✕ 99 ✕ (9 / 99) ✕ (1 / 9) ✕ (1 / 3)

= 999 ✕ (1 / 3)

= 333

Solution 5:

Let the number of students with work experience be 'x'

Let the number of students without work experience be 'y'

Hence we can get the below equation,

(Total mean salary ✕ Total number of students)

= (mean salary of students with work experience ✕ number of students with work experience)

+

(Mean salary of students without work experience) ✕ (number of students without work

experience).

35000 (x + y) = 42000x + 27000y

35000x + 35000y = 42000x + 27000y

42000x - 35000x = 35000y - 27000y

7000x = 8000y

Hence, x / y = 8 / 7

X = (8/15)* 100

  = 53.33%

Y = 46.67 %

Solution 6:

Let the digits of the 2 digit number be represented as 'a' and 'b'

The two-digit number can be represented as

$10a + b$,

Now the above number is k times the sum of its digits, we can represent it as

$10a + b = k (a + b)$

Therefore, $k = (10a + b) / (a + b)$

Now the digits are interchanged, hence the number becomes,

$10b + a = h (a + b)$

$10b + a$ can rewritten as $11 (a + b) - (10a + b)$

Therefore,

$= [11 (a + b) - (10a + b)] / (a + b)$

$= 11 - (10a + b) / (a + b)$

$= 11 - k$

Solution 7:

There are a total of 12 marbles.

When 3 marbles are picked out of total, the number of ways of doing it is

$^{12}C_3 = (12 \times 11 \times 10) / (3 \times 2 \times 1)$

$= 220$ ways.

The question says at least 1 of the marble picked up needs to be Blue.

Hence we can find the number of ways 1 blue marble is picked up + 2 blue marbles are picked up + 3 marbles are picked up.

But the shortcut would be to find the number of ways none of the marbles are blue.

Number of ways none of the marbles picked up are blue

= number of marbles excluding blue is

4 red + 3 green marbles = 7 marbles are remaining.

Now we need to pick 3 marbles out of 7 marbles.

= $^7C_3$

= (7 $\times$ 6 $\times$ 5) / (3 $\times$ 2 $\times$ 1) = 35 ways.

Therefore Probability is given by

35 / 220 = 7 / 44

Therefore the required probability is given by,

1 - (7 / 44)

= 37 / 44

Solution 8:

Probability of A speaking the truth = 60 / 100 = $\frac{3}{5}$

Probability of B speaking the truth = 70 / 100 = 7/10

The questions asks us to find probability that both speaks the same thing about an event, it implies we have to find probability when either both of them are speaking truth together and both of them are lying together.

Case 1:

The probability that both are speaking the truth = $\frac{3}{5}$ $\times$ 7/10

= 21/50

The reason for using multiplication in probability and not addition is because both A and B lying is not mutually exclusive.

Case 2:

The probability that both are lying together concerning an event.

Let us find the probability of lying individually.

Probability of A lying = 100 % - 60 % = 40 / 100 = 2 / 5

Probability of B lying = 100 % - 70 % = 30 / 100 = 3 / 10

The probability that both A and B are lying together

= (2 / 5) ✕ (3 / 10) = 6 / 50

The reason for using multiplication in probability and not addition is because both A and B lying is not mutually exclusive.

Now we find the combined probability of both lying together about an event and both speaking truth about an event.

= 21 / 50 + 6 / 50

= 27 / 50

We have used addition because lying together and speaking truth together are mutually exclusive events.

Solution 9:
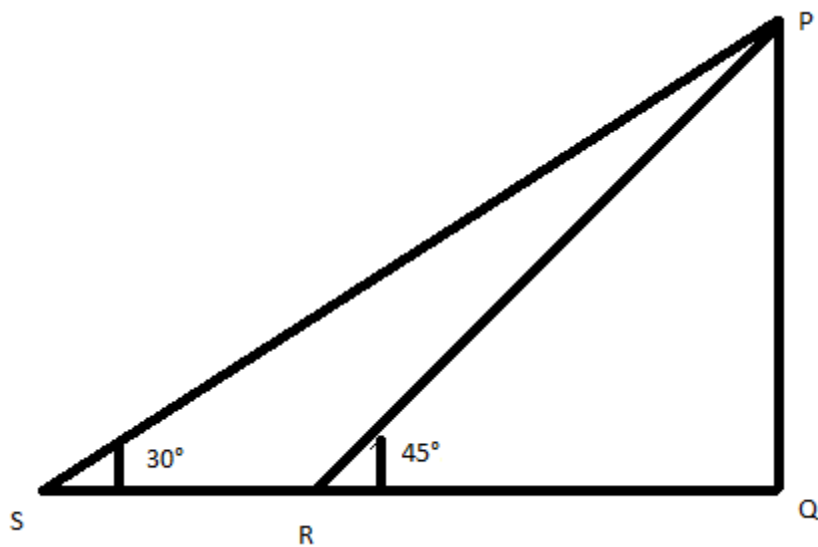
Let PQ be the tower and R and S be the two positions of the car.

Then Angle PRQ = 45°.

Angle PSQ = 30°

Let PQ = h, RS = a, RQ = b

PQ / RQ = tan 45°.

PQ / RQ = 1

So, h / b = 1

Hence h = b

PQ / SQ = h / (a + b)

Tan 30° = h / (a+b)

1 / √3 = h / (a+b)

√3 h = a + b

We can see, a = (a + b) - b

Hence, a = √3 h - h

        = h (√3 - 1)

When distance 'a' is covered in h (√3 - 1), then we need to find the time taken to cover 'b' distance; b is anyways equal to h.

[12 / { h (√3 - 1) }] ✕ h

= 12 / √3 - 1 min

= 16 min 23 sec.

Solution 20:

$4 + 2^2 = 4 + 4 = 8$

$8 + 3^2 = 8 + 9 = 17$

$17 + 4^2 = 17 + 16 = 33$ (here 4 = 2 ✕ 2)

$33 + 6^2 = 33 + 36 = 69$ (here $6 = 3 \times 2$)

$69 + 8^2 = 69 + 64 = 133$ (here $8 = 4 \times 2$)

$133 + 12^2 = 133 + 144 = 277$ (here $12 = 6 \times 2$)

$277 + 16^2 = 277 + 256 = 533$

Solution 21:

$3 + (4 - 1) = 3 + 3 = 6$

$6 + (9 - 1) = 6 + 8 = 14$

$14 + (16 - 1) = 14 + 15 = 29$

$29 + (25 - 1) = 29 + 24 = 53$

$53 + (36 - 1) = 53 + 35 = 88$

$88 + (49 - 1) = 88 + 48 = 136$

$136 + (64 - 1) = 136 + 63 = 199$

Solution 22:

Beckham's new position is 15th from the left and 4th from the right.

No. of People in the row

$= 14 + 1 + 3 = 18$

Nesta's original position is 5th from the right.

No. of students to the left of Nesta = 18 -5 = 13.

Hence, Nesta's original position is 14th from the left.

Solution 23:

Ram is 6th from the left.

No. of students to the right of Ram = 18 - 6 = 12

So Ram's position is 13th from the right.

Solution 24:

Nesta's new position is Ram's earlier position which is 6th from the left.

Solution 25:

Maldini's new position is Beckham's earlier position which is 7th from the left.

Number of students to the right of Maldini = 18 - 7 = 11

So Maldini's position is 11th from the right.