1. If the price of 3 apples, 5 bananas and 7 mangoes is 26 Rs and the price of 4 apples, 7 bananas and 10 mangoes is 36 Rs then find the price of 1 apple, 1 banana and 1 mango.

(1) 10  
(2) 7  
(3) 6  
(4) 9  
(5) Cannot be determined  
Answer key: 3  
Solution:  
Let the prices be a, b and c respectively so,  
3a + 5b + 7c = 26 ….. (1)  
4a + 7b + 10c = 36 ….. (2)  
From (1) x 3 – (2) x 2 we get,  
a + b + c = 6

1. 5 years back the age of the father was 20 more than the double the age of the son. After how many years will the age of father be double of that of the son?

(1) 20 years  
(2) 15 years  
(3) 10 years  
(4) None of these  
(5) Cannot be determined  
Answer key: 2  
Solution:  
Let us assume current ages are F and S.  
So five years back (F – 5) and (S – 5) and assume after x years father’s age will be double of that of son. So after x years they will be (F + x) and (S + x).  
Now, (F – 5) = 2 x (S – 5) + 20  
Or, F – 2S = 15 … (1)  
And also,  
(F + x) = 2(S + x)  
Or, F – 2S = x ….. (2)  
So from (1) and (2) we can say x = 15, which is the answer.

1. The difference between a number and the number obtained by reversing its digits is 27. How many such numbers are possible?

(1) 7  
(2) 6  
(3) 13  
(4) 1  
(5) None of these  
Answer key: 3  
Solution:  
Assume the number is XY or 10X + Y.  
So reverse is 10Y + X so we can say,  
If X is more than Y then,  
XY – YX = 10X + Y – (10Y + X) = 27  
So, 9(X – y) = 27 or X – Y = 3  
So X can have values from 9 to 3 so 7 possibilities.  
Now if Y is more than Y then Y – X = 3 and here X can only be from 1 to 6. (here if X is 0 then the number XY is a single digit number)  
So 7 + 6 = 13 possibilities.

1. A, B, C are three friends. A has ‘m’ marbles with him. He first gives ½ of the marble with him and 3 more to B. Then A gives C 1/3rd of the remaining marble with him and 4 more and now he is left with 10 marbles. Find the sum of the digits of m.

(1) 8  
(2) 6  
(3) 7  
(4) 5  
(5) 1  
Answer key: 2  
Solution:  
So we can say after giving m/2 + 3 marbles to B now A is left with  
m – (m/2 + 3) = m/2 – 3.  
So now he gives 1/3 x (m/2 – 3) + 4 to C so he is left with,  
(m/2 – 3) – [(m/2 – 3)/3] – 4 and this is 10.  
So solving we get m = 24. Sum of digits = 6.

1. Find the average percentage change of production of rice from 2013 to 2016 if the percentage increase in production in 2014, 2015 and 2016 are 20%, 10% and 15% respectively when calculated with respect to previous year.

(1) 17.23%  
(2) 15%  
(3) 16.36%  
(4) 19.21%  
(5) 18. 57%  
Answer key: 1  
Solution:  
If the value in 2013 is 100 then the value in 2016 will be,  
100 x 1.2 x 1.1 x 1.15 = 151.8  
So the increase = 51.8 and the average increase = 51.8/3 = 17.23%

1. A container is filled with 40% alcohol. 14 liters of that solution is taken out and is replaced with 60% alcohol to make it a solution of 47% alcohol. Find the initial amount of solution in the container.

(1) 14  
(2) 40  
(3) 54  
(4) 26  
(5) None of these  
Answer key: 2  
Solution:  
Let us assume the amount to be p liters.  
So 0.4(p – 14) + 0.6 (14) = 0.47p  
Or, p = 40

1. 81 is divided into two parts such that the 20% more of the first part is 50% more of the second part. Find out the second part.

(1) 45  
(2) 54  
(3) 40  
(4) 36  
(5) 50  
Answer key: 4  
Solution:  
We know x + y = 81  
and, 1.2x = 1.5y  
So x/y = 5/4  
So x = 5/9 x 81 = 45 and y = 4/9 x 81 = 36 and we need to find out y.

1. How many numbers can be formed using the digits 0, 1, 2, 3 exactly once?

(1) 24  
(2) 12  
(3) 256  
(4) 192  
(5) 18  
Answer key: 5  
Solution:  
If the number is ABCD then A cannot be 0 so it has 3 choices.  
Now when A is selected so we are left with 3 digits so B can also have 3 choices and similarly C will have 2 choices and D will have only one choice.  
So, 3 x 3 x 2 x 1 = 18 numbers.

1. Find the probability of getting a sum of 6 when two dice are rolled together.

(1) 5/36  
(2) 1/6  
(3) 7/36  
(4) 1/9  
(5) None of them  
Answer key: 1  
Solution:  
The sum can be 6 in the following ways – (1,5), (2,4), (3,3), (4,2) and (5,1)  
And total number of cases 6 x 6 = 36  
So the answer is 5/36

1. A person rows from a point A to B in 10 hours and why comes back from B to A in 6 hours. Find the speed ratio of the boat in still water to that of the stream?

(1) 5 : 3  
(2) 8 : 3  
(3) 8 : 5  
(4) 4 : 1  
(5) None of these  
Answer key: 4  
Solution:  
Let us assume speed of boat in still water is B and that of stream is S.  
Also let the distance be LCM of 10 and 6 or 30x km  
Speed in upstream = B – S = 3x kmph  
Speed in downstream = B + S = 5x kmph  
So B = 4x and S = x  
The ratio = 4 : 1

1. In how many ways a group of 6 students can be selected from a pool of 5 boys and 6 girls, such that the number of boys is never less than the number of girls?

(1) 200  
(2) 206  
(3) 231  
(4) 275  
(5) 281  
Answer key: 5  
Solution:  
The possible combinations are –   
3 boys and 3 girls – 5C3 x 6C3 = 10 x 20 = 200  
4 boys and 2 girls – 5C4 x 6C2 = 5 x 15 = 75  
5 boys and 1 girl – 5C5 x 6C1 = 1 x 6 = 6  
Total = 281

1. Indian cricket team playing a match against Australia where each team plays 20 over. India scored 188 and Australia scored 107 of 13 over. What’s the current required run rate per over for Australia to win the match?

(1) 11.71  
(2) 11.57  
(3) 9.45  
(4) 8.23  
(5) None of these  
Answer key: 1  
Solution:  
Australia needs another 189 – 107 = 82 runs and number of over left = 7.  
So 82/7 = 11.71

1. How many solutions are possible for x and y for 3x + 7y = 42 if x and y are whole numbers?

(1) 1  
(2) 2  
(3) 3  
(4) 4  
(5) None of these  
Answer key: 3  
Solution:  
3x + 7y = 42.  
The least possible value of x = 0, and then y = 6  
Next value of x = 0 + 7 = 7 and then y = 6 – 3 = 3.  
And then the value of x = 7 + 7 = 14 and y = 3 – 3 = 0  
So, a total of 3 solutions possible.

1. In how many ways the letter of the word “AVISHEK” be arranged such that A, I and E occupy the odd places?

(1) 432  
(2) 480  
(3) 360  
(4) 288  
(5) 576  
Answer key: 5  
Solution:  
Number of letters = 7  
So odd places are 1, 3, 5 and 7.  
So we can say A, I and E will have 4 x 3 x 2 choices and now 4 positions are left which can be occupied by the consonants.  
So 24 x 4! = 576

1. If a two digit number is chosen at random then what’s the probability of the number having at least a 5 in it?

(1) 1/9  
(2) 4/15  
(3) 2/15  
(4) 1/6  
(5) 1/5  
Answer key: 5  
Solution:  
Let the number be AB then the numbers without 5 = 8 x 9 = 72  
Total numbers = 90  
So, 18/90 = 1/5 is the answer.

1. Two trains leave two stations A and B which are 120 km apart. They start travelling towards each other with speed of 21 kmph and V kmph. If they will collide after 2 ½ hours then what’s the value of V in m/s?

(1) 27  
(2) 18  
(3) 5  
(4) 12 ½   
(5) 7 ½   
Answer key: 5  
Solution:  
The speed required to collide after 2 ½ hours = 120/2.5 = 48 kmph  
So the speed V = 48 – 21 = 27 kmph or 27 x 5/18 = 7 ½ m/s

1. A train travelling at 42 kmph overtakes another train travelling at 24 kmph in 30 seconds. If the ratio of their length is 1 : 2 then find out the length of the longer train.

(1) 300 meters  
(2) 150 meters  
(3) 50 meters  
(4) 100 meters  
(5) 200 meters  
Answer key: 4  
Solution:  
The relative velocity = 42 – 24 = 18 kmph = 18 x 5/18 = 5 m/s  
So in 30 seconds they relatively travels = 30 x 5 = 150 m.  
So we can say the length should be divided in 1:2 ratio which is 100 m and 50 m.

1. The price of rice increases by 10% and then 20% in a year. Approximately by what percentage the consumption should be decreased so that the expense remains the same?

(1) 24%  
(2) 29%  
(3) 21%  
(4) 32%  
(5) 19%  
Answer key: 1  
Solution:  
If the initial expense is 100 then the final cost = 100 x 1.2 x 1.1 = 132  
Now if the initial expense is 100y then current expense is 132y  
So reduction in consumption should be 132y – 100y = 32y.  
So the reduction percentage = 32y/132y x 100 = 24.24%

1. In how many ways we can select 3 elements out of A, A, B, B, B, C, C, C and C?

(1) 6  
(2) 8  
(3) 15  
(4) 9  
(5) 12   
Answer key: 4  
Solution:  
Let us assume the number of As to be 2 –   
(A, A, B); (A, A, C)  
Let us take cases when the number of As is 1 –  
(A, B, B) (A, B, C) (A, C, C)  
Let us take cases when there are no As –   
(B, B, B) (B, B, C) (B, C, C) (C, C, C)  
So a total of 2 + 3 + 4 = 9 ways.

1. Two points P and Q are 100 km apart. A car starts from P to Q at 10 am with a speed of 50 kmph. Throughout the day in every 20 minutes a bus starts from Q towards P with a speed of 25 kmph. On its way to Q the car will cross how many buses coming from Q?

(1) 18  
(2) 19  
(3) 25  
(4) 24  
(5) 13  
Answer key: 2  
Solution:  
A bus takes 100/25 = 4 hours.  
So the first bus that will leave at 10 – 4 = 6 am will meet the car when it’s about to start and the bus starting at 12 noon. Since we need to consider the buses starting at 6 am and 12 noon both so the number of buses = (6 hours / 20) + 1 = 19.

1. A has four times the money that B has. Each day A loses 5% of initial amount and B gains double the amount of what A loses. After how many days both will have the same amount?  
   (1) 4  
   (2) 5  
   (3) 3  
   (4) 8  
   (5) None of these  
   Answer key: 2  
   Solution:  
   Let us assume A = 400 then B = 100  
   So A got reduced by 5% of 400 = 20  
   So B increases by 20 x 2 = 40  
   So the gap reduces by 20 + 40 = 60 each day.  
   So in 300/60 = 5 days the gap will be zero or both will have same amount.
2. What’s the probability of getting exactly 1 head if 3 coins are tossed together?

(1) 1/3  
(2) 1/8  
(3) 3/8  
(4) ½  
(5) None of these  
Answer key: 3  
Solution:  
The total number of coins – 3 so total number of ways to get one head C(3,1) = 3  
Total number of ways = 23 = 8  
Probability = 3/8

1. In how many ways can 5 people sit around a circular table such that A sits towards left of B?

(1) 6  
(2) 12  
(3) 24  
(4) 60  
(5) 120  
Answer key: 1  
Solution:  
We can consider A and B as one unit and they have only one arrangement so we have total of 4 units. Around a circular table the number of arrangements will be (n – 1)! So here it is 3! = 6

1. A and B can do a work in 30 days, B and C can do the work in 42 and A and C can do the work in 35 days respectively. In how many days B alone can do the work?  
   (1) 105  
   (2) 70  
   (3) 52 ½   
   (4) 35  
   (5) None of these  
   Answer key: 2  
   Solution:  
   Take the lcm as work done so it is 210.  
   So A + B = 7 unit per day, B + C = 5 unit per day and A + C = 6 unit per day.  
   So by solving we get B does 3 units. So the answer is 210/3 = 70
2. The compound interests for 4th and 5th year for a certain sum are 340 and 357 respectively. Find the rate of interest?  
   (1) 34%  
   (2) 17%  
   (3) 10%  
   (4) 20%  
   (5) None of these  
   Answer key: 5  
   Solution:  
   The interest for consecutive years are in GP.  
   Now here 357/340 = 1.05 and this 0.05 increase is because of the interest rate.  
   So we can say that the interest rate is 0.05/1 x 100 = 5%

**Directions for Questions 26 to 30:** Each of the questions given below consists of a question and two statements numbered 1 and 2 given below it. You have to decide whether the data provided in the statements is sufficient to answer the question. Read both the statements carefully and.

1. Find the three-digit number ‘N’

Statement 1 – it is the largest three-digit number having exactly one even digit.  
Statement 2 – It is number having the sum of the digits as 26.

(1) If the data in statement I alone is sufficient to answer the question but the data in statement II alone is not sufficient to answer the question.  
(2) If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.  
(3) If the data of each statement I and statement II alone are sufficient to answer the question.  
(4) If the data in both the statements I and II together not sufficient to answer the question.  
(5) If the data in both the statements I and II together are sufficient but none of them individually is sufficient to answer the question.  
Answer key: 1  
Solution:  
Since it is given as largest three digit number with one even digit so 999 is not possible and 998 will be that number.  
The sum of the digits is 26 so the digits must be 9, 9 and 8 so possible numbers are 899, 989, 998.  
So only the first statement is sufficient to answer the question.

1. What’s the number of days in which A can complete the work?

Statement 1 – B and C can do a work in 3 days.  
Statement 2 – A and B can do a work in 4 days.

(1) If the data in statement I alone is sufficient to answer the question but the data in statement II alone is not sufficient to answer the question.  
(2) If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.  
(3) If the data of each statement I and statement II alone are sufficient to answer the question.  
(4) If the data in both the statements I and II together not sufficient to answer the question.  
(5) If the data in both the statements I and II together are sufficient but none of them individually is sufficient to answer the question.  
Answer key: 4  
Solution:  
Since there are three people and only two equations so it’s not possible to find out the answer.

1. Find the number of hens in the farm.

Statement 1 – the firm has 82 heads and 240 legs.  
Statement 2 – It has only hens and cows.  
(1) If the data in statement I alone is sufficient to answer the question but the data in statement II alone is not sufficient to answer the question.  
(2) If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.  
(3) If the data of each statement I and statement II alone are sufficient to answer the question.  
(4) If the data in both the statements I and II together not sufficient to answer the question.  
(5) If the data in both the statements I and II together are sufficient but none of them individually is sufficient to answer the question.  
Answer key: 5  
Solution:  
From the first statement we cannot say that the animals with two feet are only hens. So with the help of second statements are also required.  
We will get equations such as 2h + 4c = 240 and h + c = 82 where number of hens is ‘h’ and number of cows is ‘c’.

1. Is m>n if they are positive integers?

Statement 1 – m is an even prime number  
Statement 2 – n is an odd number.

(1) If the data in statement I alone is sufficient to answer the question but the data in statement II alone is not sufficient to answer the question.  
(2) If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.  
(3) If the data of each statement I and statement II alone are sufficient to answer the question.  
(4) If the data in both the statements I and II together not sufficient to answer the question.  
(5) If the data in both the statements I and II together are sufficient but none of them individually is sufficient to answer the question.  
Answer key: 4  
Solution:  
From first statement we can say that m = 2.  
From second statement we can say that m can be 1, 3, 5 and so on …  
So even by combination we cannot be certain that m is greater than n or not.

1. Who is more efficient among A, B and C?

Statement 1 – A, B and C together can complete a work in 10 days.  
Statement 2 – A can complete the work in 20 days.  
(1) If the data in statement I alone is sufficient to answer the question but the data in statement II alone is not sufficient to answer the question.  
(2) If the data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.  
(3) If the data of each statement I and statement II alone are sufficient to answer the question.  
(4) If the data in both the statements I and II together not sufficient to answer the question.  
(5) If the data in both the statements I and II together are sufficient but none of them individually is sufficient to answer the question.  
Answer key: 5  
Solution:  
A, B and C together does 1/10th of the work whereas A alone does 1/20th of the work so definitely A does half the work so we can say A must be equally efficient as other two so we can say A is the most efficient one.

**Directions for Questions 31 to 35:** Find out the numbers that will be there in place of ‘?’.

1. 1542, ?, 9257, 37031, 185159

(1) 3084  
(2) 3085  
(3) 2313  
(4) 2314  
(5) None of these  
Answer key: 2  
Solution:  
1542 x 2 + 1 = 3085  
3085 x 3 + 2 = 9257  
9257 x 4 + 3 = 37031  
37031 x 5 + 4 = 185159

1. 1, 5, 10, 7, 11, 10, 13, 17, 10, ? , 23

(1) 19

(2) 21

(3) 20

(4) 10

(5) None of these

Answer key: 1

Solution:

Every third number is 10 here and other numbers are,

1, 5, 7, 11, 13, 17, ?, 23

So basically they are alternately +4 and +2 with respect to the previous term so after 17 it should be 17 + 2 = 19.

1. 3, 4, 6, 8, 12, 14, ?

(1) 16

(2) 17

(3) 18

(4) 19

(5) 20

Answer key: 3

Solution:

All the numbers are 1 more than a prime number so the next number will be 17 + 1 = 18

1. 0, 6, 24, 120, ?, 336

(1) 210

(2) 240

(3) 180

(4) 216

(5) 720

Answer key: 1

Solution:

The numbers are 13 – 1 =0, 23 – 2 = 6, 33 – 3 = 24, 43 – 4 = 60, 53 – 5 = 120.

So the answer is 63 – 6 = 210.

1. 8, 18, 45, 70, ?

(1) 99

(2) 100

(3) 110

(4) 121

(5) 132

Answer key: 5

Solution:

8 = 2 x 4

18 = 3 x 6

45 = 5 x 9

70 = 7 x 10

So we can see these numbers are products of a prime and a composite number.

The numbers are chosen in ascending order.

So next number is 11 x 12 = 132

**Directions for Questions 36 to 40:** Find the wrong number in the series

1. 2, 5, 9, 15, 21

(1) 1

(2) 5

(3) 11

(4) 15

(5) 21

Answer key: 1

Solution:

These are the positions of all the vowels.

A = 1st, E = 5th, I = 9th, O = 15th, U = 21st

So the wrong term is the first one.

1. 2, 3, 5, 9, 13, 33

(1) 2

(2) 5

(3) 9

(4) 13

(5) 33

Answer key: 4

Solution:

All of them expect 13 are 1 more than a power of 2.

2 = 20 + 1, 3 = 21 + 1, 5 = 22 + 1, 9 = 23 + 1, 17 = 24 + 1, 33 = 25 + 1. So we can say that instead of 13 it should be 17.

1. 10, 23, 32, 44, 54, 67

(1) 10

(2) 23

(3) 32

(4) 44

(5) 67

Answer key: 4

Solution:

10 = 11 – 1, 23 = 22 + 1, 32 = 33 – 1, 44 = 11 x 4, 54 = 55 – 1, 67 = 66 + 1.

So we can see instead of 44 it should be 44 + 1 = 45.

1. 7, 16, 21, 36, 35, 54

(1) 7

(2) 16

(3) 21

(4) 35

(5) 54

Answer key: 2

Solution:

7 = 8 – 1,

16 = 8 x 2

21 = 8 x 3 – 3

36 = 8 x 4 + 4

35 = 8 x 5 – 5

54 = 8 x 6 + 6

So instead of 16 it should be 8 x 2 + 2 = 18

1. 0, 1, 4, 8, 9, 10, 11

(1) 4

(2) 8

(3) 9

(4) 10

(5) None of these

Answer key: 1

Solution:

All the numbers expect 4 when rotated 180 degree they form a number.

0 remains 0, 1 remains 1, 8 remains 8, 9 become 6. 10 become 01 and 11 remains 11. So instead of 4 it should be 6.

**Directions for Questions 41 to 45:** Following chart shows the number of runs scored, minutes played, balls faced, fours hit and sixes hit by ten Indian batsmen against Pakistan. The strike rate for a batsman is given by the number of runs scored per 100 balls by him. Answer the questions based on this chart.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Players | Runs scored | Minutes played | Balls faced | Fours hit | Sixes hit |
| Sehwag | 38 | 32 | 25 | 9 | 0 |
| Tendulkar | 85 | 160 | 115 | 11 | 0 |
| Gambhir | 27 | 55 | 32 | 2 | 0 |
| Kohli | 0 | 1 | 1 | 0 | 0 |
| Yuvraj | 25 | 64 | 42 | 2 | 0 |
| Raina | 36 | 69 | 39 | 3 | 0 |
| Harbhajan | 12 | 28 | 15 | 2 | 0 |
| Zaheer | 9 | 14 | 10 | 1 | 0 |
| Nehera | 1 | 1 | 2 | 0 | 0 |
| Munaf | 0 | 1 | 0 | 0 | 0 |

1. Who has the maximum run scored per minutes played?

(1) Tendulkar

(2) Raina

(3) Gambhir,

(4) Nehera,

(5) None of them

Answer key: 5

Solution:

We can see that the number of runs scored is more than number of minutes faced by Sehwag. For others it is either less or equal so definitely Sehwag is the answer.

1. Which of the following player has the maximum strike rate?

(1) Tendulkar

(2) Yuvraj

(3) Raina

(4) Nehera

(5) Kohli

Answer key: 3

Solution:

Tendulkar – 85/115 x 100 = 73.91

Yuvraj – 25/42 x 100 = 59.52

Raina – 36/39 x 100 = 92.31

Kohli – 0/1 x 100 = 0

Nehera – ½ x 100 = 50

So the answer is Raina

1. Find the player who hits the second highest percentage of runs in boundaries (4s and 6s).

(1) Sehwag

(2) Yuvraj

(3) Sachin

(4) Harbhajan

(5) None of these

Answer key: 4

Solution:

For Sehwag we can see it is 9 x 4/38 = 36/38 which is about 95%.

For Harbhajan it is 8/12 x 100 = 66.66%

For no other players it is more than 50% so definitely Harbhajan is the answer.

1. What’s difference in the strike rate of Sehwag and Tendulkar?

(1) 78.09

(2) 52.22

(3) 65.62

(4) 63.11

(5) None of these

Answer key: 1

Solution:

Tendulkar’s strike rate = 85/115 x 100 = 73.91

Sehwag’s strike rate = 38/25 x 100 = 152

Difference = 78.09

1. What percentage of runs by Gambhir, were scored in boundaries (4s & 6s)?

(1) 29.63%

(2) 31.14%

(3) 25.78%

(4) 28.73%

(5) 27.42%

Answer key: 1

Solution:

The required percentage = (4 x 2)/27 x 100 = 29.63

**Directions for Questions 46 to 50:** A magic 3 x 3 square (as shown in the figure) is made using 9 consecutive positive integers such that sum of any row, any column or any diagonal is 21. The letters a, b, c… i represent distinct integers. Answer the questions based on it

|  |  |  |
| --- | --- | --- |
| a | b | c |
| d | e | f |
| g | h | i |

1. What’s the value of ‘e’?

(1) 11  
(2) 7  
(3) 6  
(4) 10  
(5) Cannot be determined  
Answer key: 2  
Solution:  
The sum is 21 for one column so the sum of three columns is 63 which means the summation of 9 consecutive numbers is 63 or their average is 7.  
So the numbers will be from 3 to 11.  
The arrangements can be as follows.

|  |  |  |
| --- | --- | --- |
| 6 | 11 | 4 |
| 5 | 7 | 9 |
| 10 | 3 | 8 |

|  |  |  |
| --- | --- | --- |
| 6 | 5 | 10 |
| 11 | 7 | 3 |
| 4 | 9 | 8 |

Understand that the numbers 6, 11, 4, 9, 8, 3, 5 are either arranging in clockwise or in anticlockwise direction.  
Now here instead of ‘a’ we can say that c, g, i (corner ones) can also be 6.  
And same is the case for b, d, f, h as well. We will answer based on this understanding.  
What ever be the arrangements ‘a’ will always be 7.

1. If ‘b’ is 9 then what’s the value of ‘h’?

(1) 11  
(2) 3  
(3) 5  
(4) 7  
(5) Cannot be determined  
Answer key: 3  
Solution:  
The sum is 21 for one column so the sum of three columns is 63 which means the summation of 9 consecutive numbers is 63 or their average is 7.  
So the numbers will be from 3 to 11.  
The sum is 21 for one column so the sum of three columns is 63 which means the summation of 9 consecutive numbers is 63 or their average is 7.  
So the numbers will be from 3 to 11.   
The arrangements can be as follows.

|  |  |  |
| --- | --- | --- |
| 6 | 11 | 4 |
| 5 | 7 | 9 |
| 10 | 3 | 8 |

|  |  |  |
| --- | --- | --- |
| 6 | 5 | 10 |
| 11 | 7 | 3 |
| 4 | 9 | 8 |

Understand that the numbers 6, 11, 4, 9, 8, 3, 5 are either arranging in clockwise or in anticlockwise direction.  
Now here instead of ‘a’ we can say that c, g, i (corner ones) can also be 6.  
And same is the case for b, d, f, h as well. We will answer based on this understanding.  
We can see opposite to 9 it is always 5. So option 3.

1. If ‘a’ is ‘4’ then what’s the value of ‘h’?

(1) 5  
(2) 3  
(3) 11  
(4) 10  
(5) Cannot be determined  
Answer key: 5  
Solution:  
The arrangements can be as follows.

|  |  |  |
| --- | --- | --- |
| 6 | 11 | 4 |
| 5 | 7 | 9 |
| 10 | 3 | 8 |

|  |  |  |
| --- | --- | --- |
| 6 | 5 | 10 |
| 11 | 7 | 3 |
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Understand that the numbers 6, 11, 4, 9, 8, 3, 5 are either arranging in clockwise or in anticlockwise direction.  
Now here instead of ‘a’ we can say that c, g, i (corner ones) can also be 6.  
And same is the case for b, d, f, h as well. We will answer based on this understanding.  
So we here for first figure if we take a = 4 then h is 5 but for the second one h is 3 so we cannot answer the question.

1. Find the sum of c + e + g?

(1) 21  
(2) 63  
(3) 7  
(4) 49  
(5) Cannot be determined  
Answer key: 1  
Solution:  
The sum is 21 for one diagonal and c, e and g are part of a diagonal so the sum will be 21 for them as well.

1. What’s the sum of a + f + h? Given, a = 6.  
   (1) 21  
   (2) 18  
   (3) 24  
   (4) 16  
   (5) Cannot be determined  
   Answer key: 2  
   Solution:  
   The arrangements can be as follows.

|  |  |  |
| --- | --- | --- |
| 6 | 11 | 4 |
| 5 | 7 | 9 |
| 10 | 3 | 8 |

|  |  |  |
| --- | --- | --- |
| 6 | 5 | 10 |
| 11 | 7 | 3 |
| 4 | 9 | 8 |

Understand that the numbers 6, 11, 4, 9, 8, 3, 5 are either arranging in clockwise or in anticlockwise direction.  
Now here instead of ‘a’ we can say that c, g, i (corner ones) can also be 6.  
And same is the case for b, d, f, h as well. We will answer based on this understanding.  
If a = 6 then f = 9 and h = 3 is one possibility. And another possibility is f = 3 and h = 9 so in any case the sum is 6 + 3 + 9 = 18