Number System Most Asked Common Questions (Last 5 years)

Q1. When digits of the two digits number are reversed, number obtained is 9 less than twice of the original number. Also, the new number obtained is 175% of the original number. Find the sum of the digits of the number?

(a) 13
(b) 10
(c) 9
(d) 12
(e) 15

Q2. Average of four consecutive even numbers is 37 and average of four consecutive odd numbers is 30. Find difference between highest even number and second smallest odd number?

(a) 5
(b) 13
(c) 9
(d) 11
(e) 7

Q3. Sum of six consecutive odd numbers is 150 more than average of these six numbers. Find the sum of highest and lowest number?

(a) 60
(b) 50
(c) 70
(d) 45
(e) 55

Q4. Sum of squares of three consecutive numbers is 1085. Find the largest number?

(a) 19
(b) 20
(c) 18
(d) 21
(e) 22

Q5. Average of Five consecutive odd numbers are 17 and average of Five consecutive even number is 16. Find the average of largest odd number and smallest even number?

(a) 14.5
(b) 10.5
(c) 12.5
(d) 16.5
(e) 13.5

Q6. X **is a series of three consecutive even numbers and Y is a series of three consecutive odd numbers. If ratio of second lowest number of X to that of Y is 2 : 3 and sum of highest number of both series is 29, then find difference between lowest number of both series**.
(a) 5
(b) 3
(c) 7
(d) 2
(e) 1

Q7. The sum of five consecutive multiples of four is 200. Find the smallest multiple.
(a)28
(b)44
(c)36
(d)32
(e)40

Q8. The average of 11 numbers is 71 and average of first five numbers is 67. If average of last four numbers is 91.5 and the ratio of sixth and seventh number is 9 : 7, then find the sixth number.
(a) 54
(b) 36
(c) 27
(d) 45
(e) 35

Q9. P and Q are two digit number, while the ratio P to Q is 9 : 13. If we interchange the digits of P, then it becomes 33 less than Q. Find the difference between P and Q.
(a) 48
(b) 36
(c) 12
(d) 24
(e) 30

Q10. If product of A and B is five less than 23 and A is half of B, then Find value of B?
(a) 6
(b) 3
(c) 9
(d) 2
(e) 4

Q11. X is 24 more than Y and 3/5th of X is 16 less than Y. Find the value of 'Y'?
(a) 74
(b) 66
(c) 76
(d) 96
(e) 80

Solutions

S1. Ans.(c)

Sol. Let the unit digit and tens digit of the number be y and x respectively.

Original number=(10x+y)

ATQ

1.75(10x+y) =10y+x

x: y=1:2

let the unit and tens digits be 2a and 1a respectively

Now, (21a) +9=2(12a)

a=3

unit digit=6

and tens digit=3

sum of both the digits=9

S2. Ans.(d)

Sol. Let four consecutive even numbers = x, (x +2), (x +4) & (x + 6)

ATQ –

4x + 12 = 148

x = 34

highest even number = 40

Let four consecutive odd numbers = n, n + 2, n + 4 & n + 6

Given, 4n + 12 = 120

n = 27

Second smallest odd number = 29

Required difference = 40 – 29 = 11

S3. Ans.(a)

Sol. Let six consecutive odd numbers = a, a+2, a+4, a+6, a+8, a+10

ATQ –

6a + 30 − $(a + 5)$ = 150

5a + 25 = 150

a = 25

S4. Ans.(b)

Sol. Let three consecutive numbers be (n – 1), n and (n+1) respectively

ATQ –

$(n-1)^2 + n^2 + (n+1)^2 = 1085$

$3n^2 + 2 = 1085$

$3n^2 = 1083$

$n^2 = 361$

so, n = 19

largest number = (19+1) =20

S5. Ans.(d)

Sol. Let five consecutives odd numbers are a, a + 2, a + 4, a + 6 and a + 8

let five consecutives even numbers are b, b + 2, b + 4, b + 6 and b + 8

ATQ,

a+ a + 2 + a + 4 + a + 6 + a + 8 = 17× 5

5a + 20 = 85

a = 13

b + b + 2 + b + 4 + b + 6 + b + 8 = 80

5b + 20 = 80

b = 12

Required average = $\frac{[21+12]}{2} = 16.5$

S6. Ans.(a)

Sol. Let three consecutives even numbers of X = x, x + 2 & x+4

And three consecutive odd numbers of Y = y, y + 2 & y + 4

ATQ –

$\frac{x+2}{y+2} = \frac{2}{3}$

x = $\frac{2y-2}{3}$ ---(i)

Also, x + y + 8 = 29

x + y = 21 ---- (ii)

From (i) and (ii) we get

x = 8 & y = 13

Required difference = 13 – 8 = 5

S7. Ans.(d)

Sol. Let the five consecutive multiples of four be 4a, 4b, 4c, 4d, 4e;

where a=x, b=x+1, c=x+2, d=x+3 and e=x+4 .....(I)

ATQ,

$4a + 4b + 4c + 4d + 4e = 200$

$a + b + c + d + e = 50$

Or, $x + x + 1 + x + 2 + x + 3 + x + 4 = 50$ .....from (I)

$5x = 50 - 10$

$x = 8$

So, smallest multiple= $4a = 4x = 4 \times 8 = 32$

S8. Ans.(d)

Sol. Sum of all numbers = $11 \times 71 = 781$

Sum of first five numbers = $67 \times 5 = 335$

Sum of last four numbers = $91.5 \times 4 = 366$

Sum of sixth and seventh numbers = 781 – (335+366) = 80

So, sixth number = $80 \times \frac{9}{16} = 45$

S9. Ans.(d)
Sol. Form (10-99), P and Q can be (18, 26), (27, 39), (36, 54), (45, 65), (54, 78) (63, 91)
ATQ, only possible value of P and Q be (54, 78)
So, required difference = 78 – 54 = 24

S10. Ans.(a)
Sol. A ×B=23-5
A ×B= 18
Given, A = B/2
So, B/2 ×B = 36
B = 6

S11. Ans.(c)
Sol. X and Y denoted as x and y respectively.
ATQ, x – y = 24 ------ (i)
And, $x \times \frac{3}{5} + 16 = y$ ----- (ii)
From (i) and (ii) we get
72+3y = 5y - 80
76 = y