Number Series and Quadratic Equation Questions for SBI Clerk Pre

SBI Clerk Pre Maths Quiz 2

Direction (Q. 1 - 5): Study the following questions carefully and choose the right answer.

(1). 36 18 6 3 1 ?

A. 1 B. 0.5 C. 0.33 D. 0.25 E. None of these

(2). 18 8 6 9 32 ?

A. 244 B. 87 C. 232 D. 251 E. None of these

(3). 250, ?, 190, 167, 148, 131

A. 219 B. 223 C. 217 D. 211 E. None of these

(4). 244, 163, 190, 181, ?

A. 178 B. 185 C. 184 D. 182 E. None of these

(5). 18, 29, 42, 53, ?, 77

A. 64 B. 65 C. 66 D. 67 E. None of these

Directions (Q. 6 to 10): In each of these question, two equations (I) and (II) are given. You have to solve both the equations and give answer.

(6). I. $3x^2 + 8x + 4 = 0$ II. $6y^2 + 7y + 2 = 0$

A. $x > y$ B. $x < y$ C. $x \leq y$

D. $x \geq y$

E. x = y or relationship between x and y can't be established

(7). I. $x^2 - 4x - 12 = 0$ II. $y^2 - 5y - 14 = 0$

A. $x > y$ B. $x < y$ C. $x \leq y$

D. $x \geq y$

E. x = y or relationship between x and y can't be established

(8). I. $6x^2 - 11x + 4 = 0$ II. $50y^2 - 25y + 3 = 0$

A. x > y B. x < y C. x ≤ y

D. x ≥ y

E. x = y or relationship between x and y can't be established

(9). I. $x^2 - 5x + 6 = 0$ II. $y^2 - 9y + 20 = 0$

A. x > y B. x < y C. x ≤ y

D. x ≥ y

E. x = y or relationship between x and y can't be established

(10). (I). $39x^2 - 31x - 28 = 0$ (II). $y^2 - 25y + 114 = 0$

A. x > y B. x < y C. x ≤ y

D. x ≥ y

E. X = y or relationship between x and y can't be established

Correct answers:

1	2	3	4	5	6	7	8	9	10
B	D	A	C	C	C	E	A	B	B

Explanations:

1.

Series Pattern	Given Series	
36	36	
$\frac{36}{2}$	18	
$\frac{18}{3}$	6	
$\frac{6}{2}$	3	
$\frac{3}{3}$	1	
$\frac{1}{2}$	0.5	✓

Hence, option B is correct.

2.

Series Pattern	Given Series	
18	18	
18 × 0.5 – 1	8	
8 × 1 – 2	6	
6 × 2 – 3	9	
9 × 4 – 4	32	
32 × 8 – 5	251	✓

Hence, option D is correct.

3.

Series Pattern	Given Series	
250	250	
250 – 31	**219**	✓
219 – 29	190	

190 – 23	167
167 – 19	148
148 – 17	131

Hence, option A is correct.

4.

Series Pattern	Given Series	
244	244	
$244 - 3^4$	163	
$163 + 3^3$	190	
$190 - 3^2$	181	
181 + 3	**184**	✓

Hence, option C is correct.

5.

Series Pattern	Given Series	
18	18	
18 + 11	29	
29 + 13	42	
42 + 11	53	
53 + 13	**66**	✓
66 + 11	77	

Hence, option C is correct.

6.

I. $3x^2 + 8x + 4 = 0$

or, $3x^2 + 6x + 2x + 4 = 0$

or, $3x(x + 2) + 2(x + 2) = 0$

or, $(3x + 2)(x + 2) = 0$

or, $x = -\frac{2}{3}, -2$

II. $6y^2 + 7y + 2 = 0$

or, $6y^2 + 3y + 4y + 2 = 0$

or, $3y(2y + 1) + 2(2y + 1) = 0$

or, $(3y + 2)(2y + 1) = 0$

or, $y = -\frac{2}{3}, -\frac{1}{2}$

While comparing the root values of x and y, we find that one root value of x is equal and another is less than the root values of y. Hence, the relationship between x and y is $x \leq y$.

Thus, option C is correct.

7.

I. $x^2 - 4x - 12 = 0$

or, $x^2 - 6x + 2x - 12 = 0$

or, $x(x - 6) + 2(x - 6) = 0$

or, $(x + 2)(x - 6) = 0$

or, $x = -2, 6$

II. $y^2 - 5y - 14 = 0$

or, $y^2 - 7y + 2y - 14 = 0$

or, $y(y - 7) + 2(y - 7) = 0$

or, $(y + 2)(y - 7) = 0$

or, $y = -2, 7$

While comparing the root values of x and y, we find that one root value of x is lies between the values of y. Hence, the relationship between x and y can't be established.

Thus, option E is correct.

8.

I. $6x^2 - 11x + 4 = 0$

or, $6x^2 - 3x - 8x + 4 = 0$

or, $3x(2x - 1) - 4(2x - 1) = 0$

or, $(3x - 4)(2x - 1) = 0$

or, $x = 4/3, 1/2$

II. $50y^2 - 25y + 3 = 0$

or, $50y^2 - 10y - 15y + 3 = 0$

or, $10y(5y - 1) - 3(5y - 1) = 0$

or, $(10y - 3)(5y - 1) = 0$

or, $y = 3/10, 1/5$

While comparing the root values of x and y, we find that both the root values of x are greater than the values of y. Hence, the relationship between x and y is $x > y$.

Thus, option A is correct.

9.

I. $x^2 - 5x + 6 = 0$

or, $x^2 - 2x - 3x + 6 = 0$

or, $x(x - 2) - 3(x - 2) = 0$

or, $(x - 3)(x - 2) = 0$

or, $x = 3, 2$

II. $y^2 - 9y + 20 = 0$

or, $y^2 - 5y - 4y + 20 = 0$

or, $y(y - 5) - 4(y - 5) = 0$

or, $(y - 5)(y - 4) = 0$

or, $y = 4, 5$

While comparing the root values of x and y, we find that both the root values of y greater than the values of x. Hence, the relationship between x and y is $x < y$.

Thus, option B is correct.

10.

(I). $39x^2 - 31x - 28 = 0$

Or, $39x^2 - 52x + 21x - 28 = 0$

$13x(3x - 4) + 7(3x - 4) = 0$

$(13x + 7)(3x - 4) = 0$

$x = -\frac{7}{13}, \frac{4}{3}$

(II). $y^2 - 25y + 114 = 0$

Or, $y^2 - 19y - 6y + 114 = 0$

$y(y - 19) - 6(y + 19) = 0$

$(y - 19)(y - 6) = 0$

$y = 19, 6$

$x < y$

Hence, option B is correct.