



**Bipin Nambiar**  
(SBI PO 2018)



**Shiraz Khan**  
(SBI Clerk 2018)



**Kuldeep Yadav**  
(SBI PO 2018)



**Rajat Saxena**  
(IBPS Clerk 2018)



**Anupam Tyagi**  
(IBPS PO 2018)

FRIENDS!  
WE USED **TESTZONE**  
AND CRACKED BANK EXAMS

बैंक परीक्षाओ के लिए निश्चित  
रूप से सर्वश्रेष्ठ मॉक  
टेस्ट सीरीज

IT'S YOUR TURN NOW  
TAKE A **FREE** MOCK TEST



**Smartkeeda**

The Question Bank

## Quadratic Equation Questions for SBI Clerk Pre, IBPS Clerk, RBI Assistant LIC Assistant Exams.

### Quadratic Equation Quiz 17

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

1. I.  $5x^2 + 33x + 40 = 0$   
II.  $9y^2 + 32y + 15 = 0$

- A. if  $x > y$                       B. if  $x \leq y$                       C. if  $x \geq y$                       D. if  $x < y$   
E. if  $x = y$  or relationship between  $x$  and  $y$  can't be established

2. I.  $6x^2 - 13x - 44 = 0$   
II.  $4y^2 - 17y - 42 = 0$

- A. if  $x > y$                       B. if  $x \leq y$                       C. if  $x \geq y$                       D. if  $x < y$   
E. if  $x = y$  or relationship between  $x$  and  $y$  can't be established

3. I.  $3x + 5y = 34.5$   
II.  $4x - 9y = -1$

- A. if  $x > y$                       B. if  $x \leq y$                       C. if  $x \geq y$                       D. if  $x < y$   
E. if  $x = y$  or relationship between  $x$  and  $y$  can't be established

4. I.  $10x^2 + 13x - 3 = 0$   
II.  $4y^2 - 9y + 5 = 0$

- A. if  $x > y$                       B. if  $x \leq y$                       C. if  $x \geq y$                       D. if  $x < y$   
E. if  $x = y$  or relationship between  $x$  and  $y$  can't be established

5. I.  $3x^2 - (6 + \sqrt{17})x + 2\sqrt{17} = 0$   
II.  $15y^2 + (9 - 10\sqrt{17})y - 6\sqrt{17} = 0$

- A. if  $x > y$                       B. if  $x \leq y$                       C. if  $x \geq y$                       D. if  $x < y$   
E. if  $x = y$  or relationship between  $x$  and  $y$  can't be established

6. I.  $x^2 - 18.5x + 75 = 0$   
II.  $2y^2 - 40y + 175.5 = 0$

- A. if  $x > y$                       B. if  $x \leq y$                       C. if  $x \geq y$                       D. if  $x < y$   
E. if  $x = y$  or relationship between  $x$  and  $y$  can't be established

7. I.  $x^2 + 5x - 126 = 0$   
 II.  $y^2 + 5y - 104 = 0$

- A. if  $x > y$                       B. if  $x \leq y$                       C. if  $x \geq y$                       D. if  $x < y$   
 E. if  $x \leq y$  or no relationship can be established between  $x$  and  $y$ .

8. I.  $35x^2 + 4x - 63 = 0$   
 II.  $7y^2 - 4y - 20 = 0$

- A. if  $x > y$                       B. if  $x \leq y$                       C. if  $x \geq y$                       D. if  $x < y$   
 E. if  $x = y$  or relationship between  $x$  and  $y$  can't be established

9. I.  $6x^2 + 19\sqrt{3}x + 45 = 0$   
 II.  $y^2 + 5\sqrt{3}y + 18 = 0$

- A. if  $x > y$                       B. if  $x \leq y$                       C. if  $x \geq y$                       D. if  $x < y$   
 E. if  $x = y$  or relationship between  $x$  and  $y$  can't be established

10. I.  $x^2 - 1089 = 0$   
 II.  $3y^2 - 363 = 0$

- A. if  $x > y$                       B. if  $x \leq y$                       C. if  $x \geq y$                       D. if  $x < y$   
 E. if  $x = y$  or relationship between  $x$  and  $y$  can't be established

**Correct Answers:**

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

**Explanations:**

1. I.  $5x^2 + 33x + 40 = 0$   
 $5x^2 + 25x + 8x + 40 = 0$   
 $5x(x + 5) + 8(x + 5) = 0$   
 $(5x + 8)(x + 5) = 0$   
 $x = -5, -\frac{8}{5}$

II.  $9y^2 + 32y + 15 = 0$   
 $9y^2 + 27y + 5y + 15 = 0$   
 $9y(y + 3) + 5(y + 3) = 0$   
 $(9y + 5)(y + 3) = 0$   
 $y = -3, -\frac{5}{9}$

Hence Relationship cannot be established.  
 Therefore, option E is correct.

**2.** I.  $6x^2 - 13x - 44 = 0$   
 $6x^2 - 24x + 11x - 44 = 0$   
 $6x(x - 4) + 11(x - 4) = 0$   
 $(6x + 11)(x - 4) = 0$   
 $x = 4, -\frac{11}{6}$

II.  $4y^2 - 17y - 42 = 0$   
 $4y^2 - 24y + 7y - 42 = 0$   
 $4y(y - 6) + 7(y - 6) = 0$   
 $(4y + 7)(y - 6) = 0$   
 $y = 6, -\frac{7}{4}$

Hence Relationship cannot be established.  
 Therefore, option E is correct.

**3.** Multiplying equation (I) by 4 and equation (II) by 3 we get,  
 $12x + 20y = 138$   
 $12x - 27y = -3$

Subtracting both equations:

$47y = 141$   
 $y = 3$   
 $4x - 9y = -1$   
 $4x - 9(3) = -1$   
 $4x - 27 = -1$   
 $4x = 27 - 1$   
 $4x = 26$

$x = \frac{26}{4} = \frac{13}{2}$

$x > y$

Hence, option A is correct.

**4.** I.  $10x^2 + 13x - 3 = 0$   
 $\therefore 10x^2 - 2x + 15x - 3 = 0$   
 $\therefore 2x(5x - 1) + 3(5x - 1) = 0$   
 $\therefore (2x + 3)(5x - 1) = 0$   
 $\therefore x_1 = -\frac{3}{2}$

$x_2 = \frac{1}{5}$

SmartKeeda  
 The Question Bank

$$\text{II. } 4y^2 - 9y + 5 = 0$$

$$\therefore 4y^2 - 4y - 5y + 5 = 0$$

$$\therefore 4y(y - 1) - 5(y - 1) = 0$$

$$\therefore (4y - 5)(y - 1) = 0$$

$$\therefore y_1 = 1$$

$$y_2 = \frac{5}{4}$$

We can see that  $x_1 < x_2 < y_1 < y_2$

Therefore,  $x < y$ .

Hence, option D is correct.

$$5. \quad \text{I. } 3x^2 - (6 + \sqrt{17})x + 2\sqrt{17} = 0$$

$$\therefore 3x^2 - 6x - \sqrt{17}x + 2\sqrt{17} = 0$$

$$\therefore 3x(x - 2) - \sqrt{17}(x - 2) = 0$$

$$\therefore (3x - \sqrt{17})(x - 2) = 0$$

$$\therefore x_1 = 2$$

$$x_2 = \frac{\sqrt{17}}{3}$$

$$\text{II. } 15y^2 + (9 - 10\sqrt{17})y - 6\sqrt{17} = 0$$

$$15y^2 - 10\sqrt{17}y + 9y - 6\sqrt{17} = 0$$

$$5y(3y - 2\sqrt{17}) + 3(3y - 2\sqrt{17}) = 0$$

$$(5y + 3)(3y - 2\sqrt{17}) = 0$$

$$\therefore y_1 = -\frac{3}{5}$$

$$y_2 = \frac{2\sqrt{17}}{3}$$

We can see that  $y_1 < x_2 < x_1 < y_2$

Therefore, the relation can't be determined.

Hence, option E is correct.

$$6. \quad \text{I. } x^2 - 18.5x + 75 = 0$$

$$x^2 - 12.5x - 6x + 75 = 0$$

$$x(x - 12.5) - 6(x - 12.5) = 0$$

$$(x - 12.5)(x - 6) = 0$$

$$x = 12.5, 6$$

$$\text{II. } 2y^2 - 40y + 175.5 = 0$$

$$2y^2 - 27y - 13y - 175.5 = 0$$

$$2y(y - 13.5) - 13(y - 13.5) = 0$$

$$(2y - 13)(y - 13.5) = 0$$

$$y = 6.5, 13.5$$

Therefore relation cannot be established

Hence, option E is correct.

7. I.  $x^2 + 5x - 126 = 0$   
 $x^2 + 14x - 9x - 126 = 0$   
 $x(x + 14) - 9(x + 14) = 0$   
 $(x - 9)(x + 14) = 0$   
 $x = 9, -14$

II.  $y^2 + 5y - 104 = 0$   
 $y^2 + 13y - 8y - 104 = 0$   
 $y(y + 13) - 8(y + 13) = 0$   
 $(y - 8)(y + 13) = 0$   
 $y = 8, -13$

Therefore, relationship can't be established  
Hence, option E is correct.

8. I.  $35x^2 + 4x - 63 = 0$   
 $35x^2 + 49x - 45x - 63 = 0$   
 $7x(5x + 7) - 9(5x + 7) = 0$   
 $(7x - 9)(5x + 7) = 0$   
 $x = \frac{9}{7}, -\frac{7}{5}$

II.  $7y^2 - 4y - 20 = 0$   
 $7y^2 - 14y + 10y - 20 = 0$   
 $7y(y - 2) + 10(y - 2) = 0$   
 $(y - 2)(7y + 10) = 0$   
 $y = 2, -\frac{10}{7}$

Therefore, relationship can't be established  
Hence, option E is correct.

9. I.  $6x^2 + 19\sqrt{3}x + 45 = 0$   
 $6x^2 + 10\sqrt{3}x + 9\sqrt{3}x + 45 = 0$   
 $2x(3x + 5\sqrt{3}) + 3\sqrt{3}(3x + 5\sqrt{3}) = 0$   
 $(2x + 3\sqrt{3})(3x + 5\sqrt{3}) = 0$   
 $x = -\frac{3}{2}\sqrt{3}, -\frac{5}{3}\sqrt{3}$

II.  $y^2 + 5\sqrt{3}y + 18 = 0$   
 $y^2 + 3\sqrt{3}y + 2\sqrt{3}y + 18 = 0$   
 $y(y + 3\sqrt{3}) + 2\sqrt{3}(y + 3\sqrt{3}) = 0$   
 $(y + 2\sqrt{3})(y + 3\sqrt{3}) = 0$   
 $y = -2\sqrt{3}, -3\sqrt{3}$

$x > y$   
Hence, option A is correct.

SmartKeeda  
The Question Bank

10. I.  $x^2 - 1089 = 0$ ,

$$x = \pm 33$$

II.  $3y^2 - 363 = 0$ ,

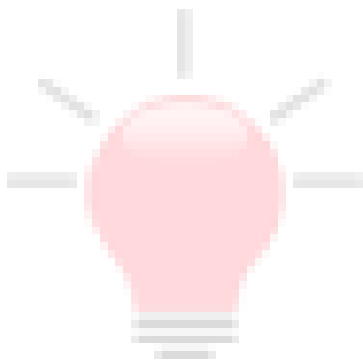
$$3y^2 = 363,$$

$$y^2 = 121$$

$$y = \pm 11$$

Therefore, relationship cannot be established

Hence, option E is correct.



**SmartKeeda**  
The Question Bank

**For more PDFs join  
us on Telegram**

[CLICK HERE](#)



SBI | RBI | IBPS | RRB | SSC | NIACL | EPFO | UGC NET | LIC | RAILWAY | CLAT | RJS



# SmartKeeda

The Question Bank

Presents

## TestZone

India's least priced Test Series platform

JOIN

### ALL BANK EXAMS

2019-20 Test Series

@ Just

₹ 499/-

300+ Full Length Tests

- Brilliant Test Analysis
- Excellent Content
- Unmatched Explanations

JOIN NOW