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## Quadratic Eqn Questions for RBI Asst. Pre, IBPS Clerk Pre and SBI Clerk Pre Exams

### Quadratic Eqn Quiz 33

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

1. I.  $2x^2 - 9x + 10 = 0$

II.  $2y^2 - 13y + 21 = 0$

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

II.  $y^2 + y - 12 = 0$

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.  $x^2 - 196 = 0$

II.  $y - \sqrt{196} = 0$

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

4. I.  $5x - 2y = 28$

II.  $x + 2y = -16$

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.  $x^3 - 343 = 0$

II.  $y^2 + \sqrt{225} = 31$

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.  $x^2 - 324 = 0$

II.  $y^3 - 2744 = 0$

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.  $3x + 7y = 11$

II.  $4x + 9y = 13$

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

8. I.  $x^2 - 11x + 28 = 0$

II.  $y^2 - 20y + 91 = 0$

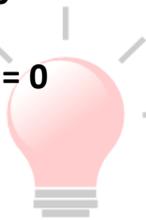
A. if  $x > y$

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



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9. I.  $2x^2 + x - 15 = 0$

II.  $3y^2 - y - 14 = 0$

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.  $x^2 - 1296 = 0$

II.  $y = \sqrt{1296}$

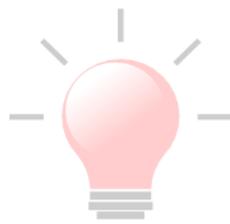
A. if  $x > y$

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



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**Correct Answers:**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
D	E	B	A	A	E	D	B	E	B

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**Explanation:**

1. I.  $2x^2 - 9x + 10 = 0$

$$2x^2 - 5x - 4x + 10 = 0$$

$$x(2x - 5) - 2(2x - 5) = 0$$

$$(2x - 5)(x - 2) = 0$$

$$x = \frac{5}{2}, 2$$

II.  $2y^2 - 13y + 21 = 0$

$$2y^2 - 6y - 7y + 21 = 0$$

$$2y(y - 3) - 7(y - 3) = 0$$

$$(2y - 7)(y - 3) = 0$$

$$y = 3, \frac{7}{2}$$

While comparing the root values of  $x$  and  $y$ , we find that both the root values of  $x$  are less than the values of  $y$ . Therefore,  $x < y$

Hence, option D is correct.

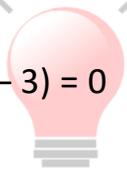
2. I.  $x^2 + 4x + 3 = 0$

$$x^2 + x + 3x + 3 = 0$$

$$x(x + 1) + 3(x + 1) = 0$$

$$(x + 1)(x + 3) = 0$$

$$x = -1, -3$$



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$$\text{II. } y^2 + y - 12 = 0$$

$$y^2 - 3y + 4y - 12 = 0$$

$$y(y - 3) + 4(y - 3) = 0$$

$$(y - 3)(y + 4) = 0$$

$$y = -4, 3$$

While comparing the root values of  $x$  and  $y$ , we find that both the root values of  $x$  lies between the values of  $y$ 's. Therefore, the relationship cannot be established

Hence, option E is correct.

**3.** I.  $x^2 - 196 = 0$

$$x^2 = 196$$

$$x = 14, -14$$

II.  $y - \sqrt{196} = 0$

$$y = \sqrt{196}$$

$$y = 14$$

While comparing the root values of  $x$  and  $y$ , we find that one root value of  $x$  is equal to  $y$  and another one is less than the  $y$ 's. Therefore,  $x \leq y$ .

Hence, option B is correct.

**4.**  $5x - 2y = 28 \dots \text{(I)}$

$$x + 2y = -16 \dots \text{(II)}$$

Eqn. (I) + Eqn. (II),

$$6x = 12$$

$$x = 2$$

Substitute  $x = 2$  in Eqn. (I),



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$$5(2) - 2y = 28$$

$$10 - 2y = 28$$

$$-2y = 18$$

$$y = -9$$

Therefore,  $x > y$

Hence, option A is correct.

**5.** I.  $x^3 - 343 = 0$

$$x^3 = 343$$

$$x = 7$$

II.  $y^2 + \sqrt{225} = 31$

$$y^2 = 31 - 15$$

$$y^2 = 16$$

$$y = 4, -4$$

Therefore,  $x > y$

Hence, option A is correct.

**6.** I.  $x^2 - 324 = 0$

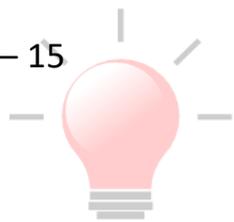
$$x^2 = 324$$

$$\therefore x = \pm 18$$

II.  $y^3 - 2744 = 0$

$$y^3 = 2744$$

$$\therefore y = 14$$



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

Hence, option E is correct.

7. I.  $3x + 7y = 11$

II.  $4x + 9y = 13$

Multiply in eq. (i)  $\times 4$  and (ii)  $\times 3$

$$12x + 28y = 44$$

$$12x + 27y = 39$$

$$\begin{array}{r} - \quad - \quad - \\ \hline y = 5 \end{array}$$

Putting the value in eq. (i)

$$3x + 7 \times 5 = 11$$

$$3x + 35 = 11$$

$$3x = 11 - 35$$

$$x = \frac{-24}{3} = -8$$

Here,  $x < y$

Hence, option D is correct.

8. I.  $x^2 - 11x + 28 = 0$

$$x^2 - 4x - 7x + 28 = 0$$

$$x(x - 4) - 7(x - 4) = 0$$

$$(x - 4)(x - 7) = 0$$

$$x = 4, 7$$



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$$\text{II. } y^2 - 20y + 91 = 0$$

$$y^2 - 13y - 7y + 91 = 0$$

$$y(y - 13) - 7(y - 13) = 0$$

$$(y - 13)(y - 7) = 0$$

$$y = 13, 7$$

While comparing the root values of  $x$  and  $y$ , we find that one root value of  $x$  is equal to  $y$  and another one is less than  $y$ 's. Therefore,  $x \leq y$

Hence, option B is correct.

9. I.  $2x^2 + x - 15 = 0$

$$2x^2 + 6x - 5x - 15 = 0$$

$$2x(x + 3) - 5(x + 3) = 0$$

$$(x + 3)(2x - 5) = 0$$

$$x = \frac{5}{2} = 2.5, -3$$

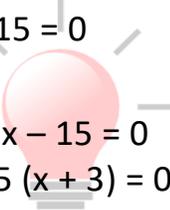
II.  $3y^2 - y - 14 = 0$

$$3y^2 + 6y - 7y - 14 = 0$$

$$3y(y + 2) - 7(y + 2) = 0$$

$$(3y - 7)(y + 2) = 0$$

$$y = -2, \frac{7}{3}$$

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While comparing the root values of x and y, we find that both the root values of y lies between the values of x. Therefore, the relationship between x and y can't be established.

Hence, option E is correct.

10. I.  $x^2 - 1296 = 0$

$$x = \pm 36$$

II.  $y = \sqrt{1296}$

$$y = 36$$

Here,  $x \leq y$

Hence, option B is correct.



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