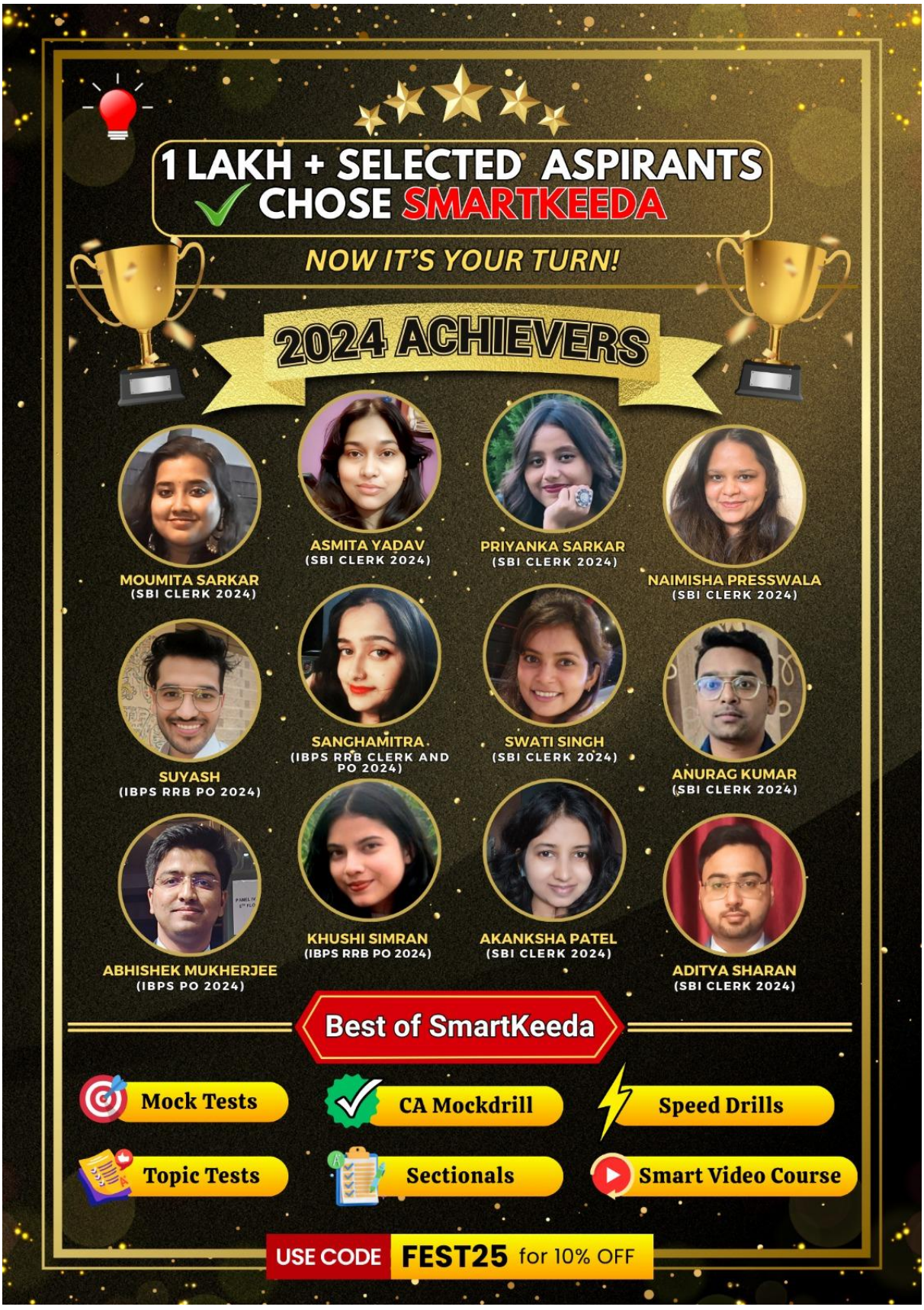
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Quadratic Eqn Questions for RBI Asst. Pre, IBPS Clerk Pre and SBI Clerk Pre Exams.

Quadratic Eqn Quiz 32

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. $x^2 = 81$**

II. $y^2 - 13y + 36 = 0$

A. if x > y B. if x ≤ y C. if x ≥ y
D. if x < y E. if x = y or relationship between x and y can't be established

2. **I. $7x^2 - 9x = -2$**

II. $y^2 - 4y + 3 = 0$

A. if x > y B. if x ≤ y C. if x ≥ y
D. if x < y E. if x = y or relationship between x and y can't be established

3. **I. $x^2 - 225 = 0$**

II. $y - \sqrt{225} = 0$

A. if x > y B. if x ≤ y C. if x ≥ y
D. if x < y E. if x = y or relationship between x and y can't be established

4. **I. $x^2 - 9x = -20$**

II. $y^2 - 13y = -42$

A. if x > y B. if x ≤ y C. if x ≥ y
D. if x < y E. if x = y or relationship between x and y can't be established

5. **I. $x^2 - 15x + 56 = 0$**

II. $y^2 - 11y + 30 = 0$

A. if x > y B. if x ≤ y C. if x ≥ y
D. if x < y E. if x = y or relationship between x and y can't be established

6. **I. $x^2 + 12x + 36 = 0$**

II. $y^2 + 10y + 24 = 0$

A. if x > y B. if x ≤ y C. if x ≥ y

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

7. **I. $x^2 - 7x + 12 = 0$**

II. $4y^2 - 7y + 3 = 0$

A. if x > y B. if x ≤ y C. if x ≥ y

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

8. **I. $x^3 = 1728$**

II. $y^2 - 196 = 0$

A. if x > y B. if x ≤ y C. if x ≥ y
D. if x < y E. if x = y or relationship between x and y can't be established

9. **I. $2x^2 + 11x + 14 = 0$**

II. $2y^2 - 5y + 3 = 0$

A. if x > y B. if x ≤ y C. if x ≥ y
D. if x < y E. if x = y or relationship between x and y can't be established

10. **I. $x^2 - 36 = \sqrt{169}$**

II. $3y^2 - 10y + 7 = 0$

A. if x > y B. if x ≤ y C. if x ≥ 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	B	B	D	A	B	A	E	D	E

Explanation:

1. **I.** $x^2 = 81$

$x = 9, -9$

II. $y^2 - 13y + 36 = 0$

$y^2 - 9y - 4y + 36 = 0$

$y(y - 9) - 4(y - 9) = 0$

$(y - 9)(y - 4) = 0$

$y = 9, 4$

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

Hence, option E is correct.

2. **I.** $7x^2 - 9x = -2$

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

$7x(x - 1) - 2(x - 1) = 0$

$(7x - 2)(x - 1) = 0$

$x = \frac{2}{7}, 1$

II. $y^2 - 4y + 3 = 0$

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

$y(y - 1) - 3(y - 1) = 0$

$(y - 3)(y - 1) = 0$

$y = 1, 3$

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

Hence, option B is correct.

3. **I.** $x^2 - 225 = 0$

$x^2 = 225$

$x = 15, -15$

II. $y - \sqrt{225} = 0$

$y = \sqrt{225}$

$y = 15$

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

Hence, option B is correct.

4. **I.** $x^2 - 9x = -20$

$x^2 - 9x + 20 = 0$

$x^2 - 4x - 5x + 20 = 0$

$x(x - 4) - 5(x - 4) = 0$

$(x - 5)(x - 4) = 0$

$x = 4, 5$

II. $y^2 - 13y = -42$

$y^2 - 13y + 42 = 0$

$y^2 - 6y - 7y + 42 = 0$

$y(y - 6) - 7(y - 6) = 0$

$(y - 7)(y - 6) = 0$

$y = 6, 7$

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

Hence, option D is correct.

5. **I.** $x^2 - 15x + 56 = 0$

$x^2 - 7x - 8x + 56 = 0$

$x(x - 7) - 8(x - 7) = 0$

$(x - 7)(x - 8) = 0$

$x = 7, 8$

II. $y^2 - 11y + 30 = 0$

$y^2 - 6y - 5y + 30 = 0$

$y(y - 6) - 5(y - 6) = 0$

$(y - 6)(y - 5) = 0$

$y = 6, 5$

While comparing the root values of x and y, we find that both the root values of x are greater than y's. Therefore, $x > y$.

Hence, option A is correct.

6. According to the given equations :

I. $x^2 + 12x + 36 = 0$

or, $x^2 + 6x + 6x + 36 = 0$

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

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

or, $x = -6, -6$

II. $y^2 + 10y + 24 = 0$

or, $y^2 + 4y + 6y + 24 = 0$

or, $y(y + 4) + 6(y + 4) = 0$

or, $(y + 4)(y + 6) = 0$

or, $y = -4, -6$

While comparing the root values of x and y, we find that one root value of y is equal to x another one is greater than x. Therefore, $x \leq y$.
Hence, option B is correct.

7. According to the given equations :

I. $x^2 - 7x + 12 = 0$

or, $x^2 - 3x - 4x + 12 = 0$

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

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

or, $x = 3, 4$

II. $4y^2 - 7y + 3 = 0$

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

or, $4y(y - 1) - 3(y - 1) = 0$

or, $(4y - 3)(y - 1) = 0$

or, $y = 3/4, 1$

While comparing the root values of x and y, we find that both the root values of y are less than x's . Hence, $x > y$.

Hence, option A is correct.

8. According to the given equations :

I. $x^3 = 1728$

or, $x^3 = 12^3$

or, $x = 12$

II. $y^2 - 196 = 0$

or, $y^2 = 196$

or, y = ±14

or, y = + 14 or – 14

As we can see that the root value of x is lying between the values of y. Therefore, a relationship between x and y can't be established.

Hence, option E is correct.

9. According to the given equations :

I. $2x^2 + 11x + 14 = 0$

or, $2x^2 + 4x + 7x + 14 = 0$

or, $2x (x + 2) + 7 (x + 2) = 0$

or, $(2x + 7) (x + 2) = 0$

or, $x = – 7/2, – 2$

II. $2y^2 – 5y + 3 = 0$

or, $2y^2 – 2y – 3y + 3 = 0$

or, $2y (y – 1) – 3(y – 1) = 0$

or, $(2y – 3) (y – 1) = 0$

or, $y = 1, 3/2 = 1.5$

While comparing the root values of x and y, we find that both the values of x is less than y's. Hence, $x < y$.

Hence, option D is correct.

10. According to the given equations :

I. $x^2 - 36 = \sqrt{169}$

or, $x^2 - 36 = 13$

or, $x^2 = 49$

or, $x = \pm 7$

II. $3y^2 - 10y + 7 = 0$

or, $3y^2 - 3y - 7y + 7 = 0$

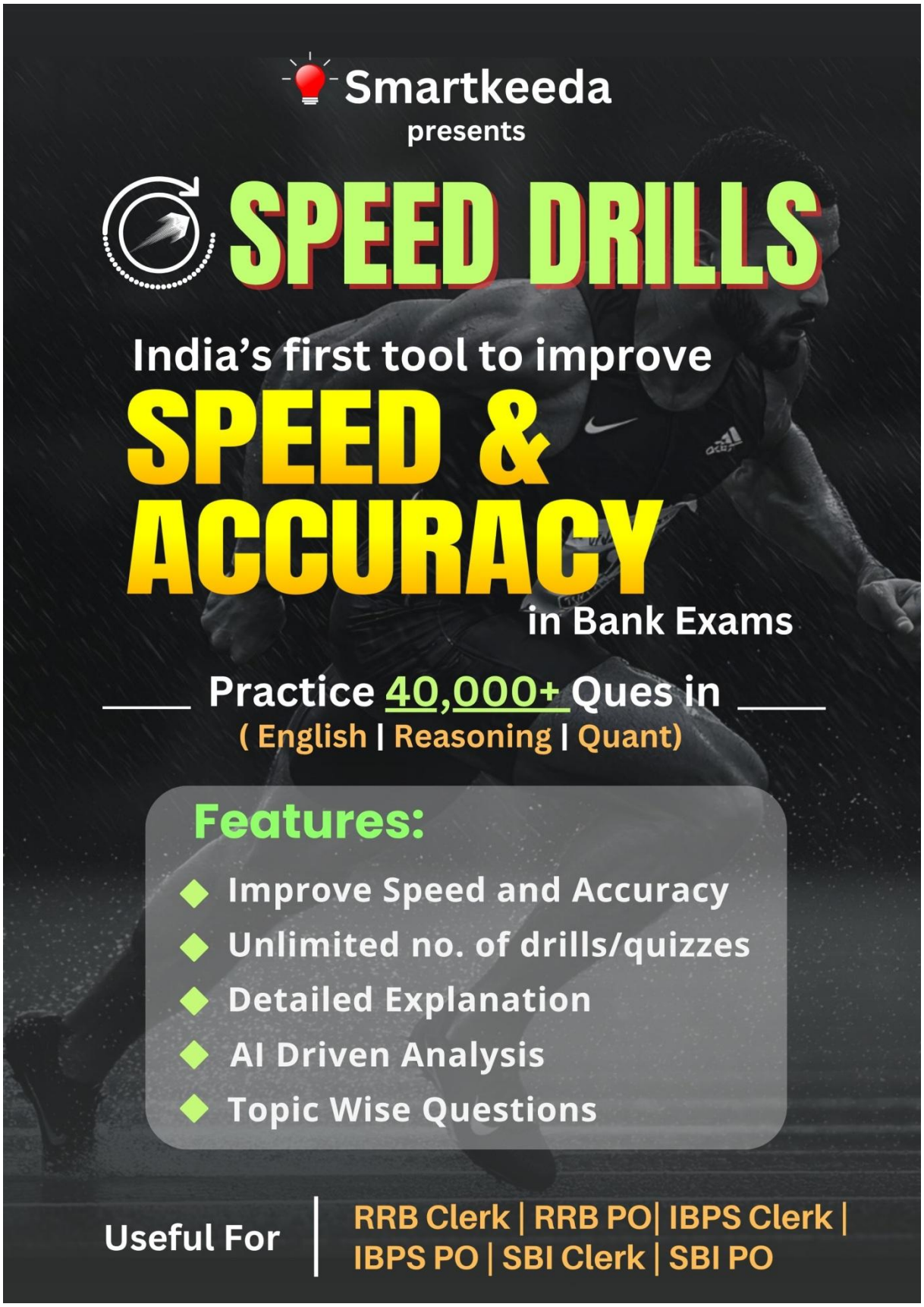
or, $3y(y - 1) - 7(y - 1) = 0$

or, $(3y - 7)(y - 1) = 0$

or, $y = 7/3, 1$

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

Hence, option E is correct.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