Quadratic Equation Questions for Bank Exams

Directions (1-5): In each of these questions, two equation (I) and (II) are given. You have to solve both the equations and give answer
(a) If x>y
(b) If x≥y
(c) If x<y
(d) If x≤y
(e) If x = y or no relation can be established between x and y

Q1. I. $x^2 + 13x - 114 = 0$
II. $y^3 = 216$

Q2. I. $x^2 - 6x + 12 = 4$
II. $y^2 + 4y - 10 = -13$

Q3. I. $12x^2 - 7x + 1 = 0$
II. $20y^2 - 9y + 1 = 0$

Q4. I. $x^2 + 26x + 165 = 0$
II. $y^2 + 23y + 132 = 0$

Q5. I. $x^2 + x - 6 = 0$
II. $15y^2 - 11y + 2 = 0$

Direction (6 – 10): In each of the following questions two equations are given. Solve these equations and give answer:
(a) if $x \geq y$, i.e., x is greater than or equal to y
(b) if $x > y$, i.e., x is greater than y
(c) if $x \leq y$, i.e., x is less than or equal to y
(d) if $x < y$, i.e., x is less than y
(e) $x = y$ or no relation can be established between x and y

Q6. (i) $x^2 + 9 = 73$
(ii) $y^3 = 512$

Q7. (i) $x^2 + 11x + 18 = 0$
(ii) $y^2 + 19y + 90 = 0$

Q8. (i). $x^2 - 10x + 21 = 0$
(ii). $y^2 - 5y + 6 = 0$

Q9. (i) $2x^2 + x - 1 = 0$
(ii) $2y^2 + 3y + 1 = 0$

Q10. (i). $2x^2 + 13x + 21 = 0$
(ii). $2y^2 + 11y + 14 = 0$

Direction (11 – 15): In each of these questions, two equation (I) and (II) are given. You have to solve both the equations and give answer.
(a) If x=y or no relation can be established.
(b) If x>y
(c) If x<y
(d) If x≥y
(e) If x≤y

Q11. (I) x³ – 12 – 1319 = 0
(II) y² – 21 – 100 = 0

Q12. I. $12x^2 - 7x + 1 = 0$
II. $y^2 + 23y + 132 = 0$

Q13. (I) x²+ 9x – 52 = 0
(II) 12y² + 16y + 4 = 0

Q14. (I) x² – x – 210 = 0
(II) y² – 31y + 240 = 0

Q15. (I) 2x² – 8x – 24 = 0
(II) 9y² – 12y + 4 = 0

Directions (16-20): In each question two equations **(I)** and **(II)** are given. You should solve both the equations and mark appropriate answer.
(a) If x > y
(b) If x ≥ y
(c) If x < y
(d) If x ≤ y
(e) If = y or the relationship cannot be established.

Q16. I. $2x^2 - 7x + 5 = 0$
II. $y^2 - 3y + 2 = 0$

Q17. I. $x^2 - 25x + 156 = 0$
II. $y^2 - 29y + 210 = 0$

Q18. I. $x^2 + 20x + 96 = 0$
II. $y^2 + 15y + 56 = 0$

Q19. I. $x^2 - 3x - 40 = 0$
II. $2y^2 + 11y + 15 = 0$

Q20. I. $x^2 - 16x + 64 = 0$
II. $y^2 - 14y + 48 = 0$

Directions (21-25): In each of these questions, two equation (I) and (II) are given. You have to solve both the equations and give answer
(a) If x>y
(b) If x≥y
(c) If x<y
(d) If x≤y
(e) If x = y or no relation can be established between x and y

Q21. I. $x^2 - 3x - 108 = 0$
II. $y^2 - 26y + 168 = 0$

Q22. I. $3x^2 - 23x + 20 = 0$
II. $6y^2 - 31y + 18 = 0$

Q23. I. $12x^2 + 16x - 11 = 0$
II. $7y^2 - 22y + 15 = 0$

Q24. I. $x^2 + 7x - 8 = 0$
II. $3y^2 - 14y + 15 = 0$

Q25. I. $x^2 - 13x + 42 = 0$
II. $y^2 - 15y + 56 = 0$

Directions (26-30): In each of these questions, two equation (I) and (II) are given. You have to solve both the equations and give answer
(a) If x>y
(b) If x≥y
(c) If x<y
(d) If x≤y
(e) If x = y or no relation can be established between x and y

Q26. I. $3x^2 - 35x + 98 = 0$
II. $2y^2 + 9y - 45 = 0$

Q27. I. $x^3 - 43 = 1685$
II. $2y^2 = 288$

Q28. I. $x^2 + 25x + 114 = 0$
II. $y^2 + 11y + 30 = 0$

Q29. I. $9x^2 - 54x + 80 = 0$
II. $8y^2 - 46y + 65 = 0$

Q30. I. $x^2 - x - 56 = 0$
II. $y^2 - 20y + 91 = 0$

Directions (31-35): In each of these questions, two equation (I) and (II) are given. You have to solve both the equations and give answer
(a) If x>y
(b) If x≥y
(c) If x<y
(d) If x≤y
(e) If x = y or no relation can be established between x and y

Q31. I. $x^2 + 3x - 154 = 0$
II. $y^2 - 29y + 198 = 0$

Q32. I. $2x^2 - 25x + 42 = 0$
II. $3y^2 - 32y + 85 = 0$

Q33. I. $5x^2 - 24x + 19 = 0$
II. $4y^2 - 19y + 21 = 0$

Q34. I. $x^2 + 2x - 224 = 0$
II. $y^2 + 34y + 288 = 0$

Q35. I. $x^2 - 48 = 313$
II. $y^3 = 6859$

Directions (36-40): In each of these questions, two equation (I) and (II) are given. You have to solve both the equations and give answer
(a) If x> y
(b) If x≥ y
(c) If x< y
(d) If x≤ y
(e) If x = y or no relation can be established between x and y

Q36. I. $x^2 - 3x - 88 = 0$
II. $y^2 + 8y - 48 = 0$

Q37. I. $2x^2 + 21x + 10 = 0$
II. $3y^2 + 13y + 14 = 0$

Q38. I. $x^3 = 27$
II. $y^2 + 3y - 18 = 0$

Q39. I. $x^2 + 2x - 8 = 0$
II. $y^2 + y - 12 = 0$

Q40. I. $2x^2 - 7x + 6 = 0$
II. $y^2 - 9y + 14 = 0$

Directions (41-45): In each of these questions, two equation (I) and (II) are given. You have to solve both the equations and give answer.
(a) If x>y
(b) If x≥y
(c) If x<y
(d) If x≤y
(e) If x = y or no relation can be established between x and y

Q41. I. $x^2 + 3x - 40 = 0$
II. $y^2 - 11y + 30 = 0$

Q42. I. $2x^2 + 7x - 15 = 0$
II. $3y^2 + 5y - 12 = 0$

Q43. I. $2x^2 + 26x + 84 = 0$
II. $y^2 + 15y + 56 = 0$

Q44. I. $x^2 + 2x - 224 = 0$
II. $y^2 + 34y + 288 = 0$

Q45. I. $x^2 - 4x = 221$
II. $y^3 = 6859$
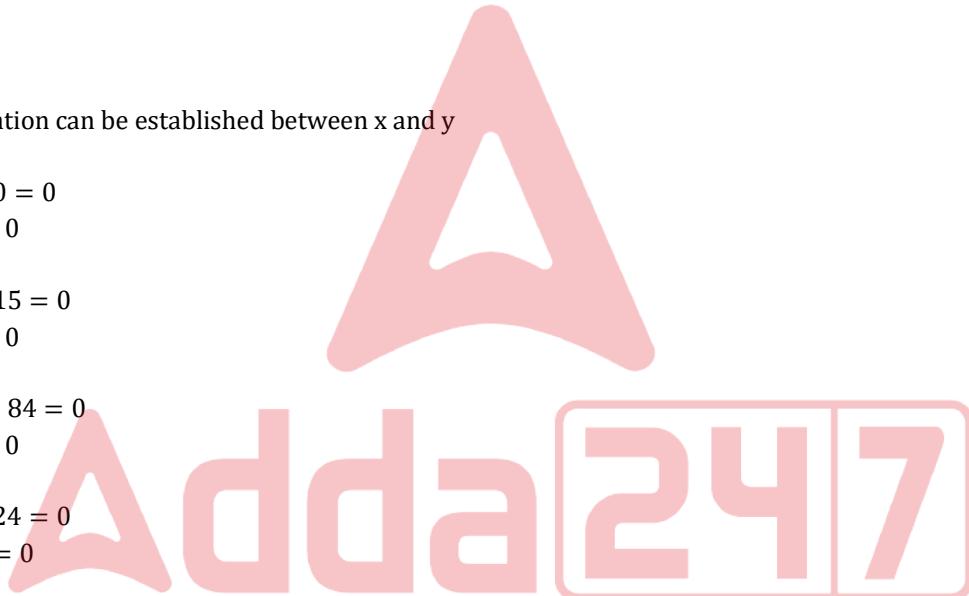
Directions (46-50): In each of these questions, two equation (I) and (II) are given. You have to solve both the equations and give answer
(a) If x>y
(b) If x≥y
(c) If x<y
(d) If x≤y
(e) If x = y or no relation can be established between x and y

Q46. I. $x^2 - 4x - 21 = 0$
II. $y^2 - 15y + 56 = 0$

Q47. I. $2x^2 - 17x - 19 = 0$
II. $3y^2 + 8y - 11 = 0$

Q48. I. $7x^2 - 18x - 25 = 0$
II. $9y^2 - 15y - 14 = 0$

Q49. I. $x^2 - 57 = 304$
II. $y = \sqrt{361}$

Q50. I. $x = \sqrt{(18 \times 4) - 16 \div 2}$
II. $y^2 = 13y - 42$

Directions (51-55): In each of these questions, two equations (i) and (ii) are given. You have to solve both the equations and give answer
(a) if x>y
(b) if x≥y
(c) if x = y or no relation can be established between x and y.
(d) if y>x
(e) if y≥ x

Q51. (i) x² – 12x + 32 = 0
(ii) y² – 20y + 96 = 0

Q52. (i) 2x² – 3x – 20 = 0
(ii) 2y² + 11y + 15 = 0

Q53. (i) x² – x – 6 = 0
(ii) y² – 6y + 8 = 0

Q54. (i) x² + 14x - 32 = 0
(ii) y² – y – 12 = 0

Q55. (i) x² – 9x + 20 = 0
(ii) 2y² – 12y + 18 = 0
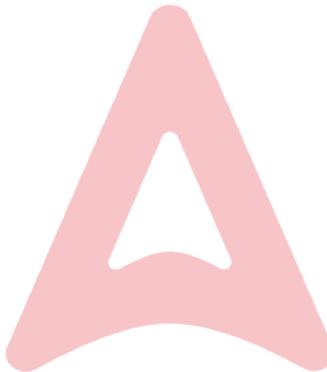
Directions (56-60): There are two equations **(I) and (II)** in x and y are given in each question. You have to solve both the equations and give answer accordingly:
(a) if x > y
(b) if x < y
(c) if x = y or relation between x & y cannot be established
(d) x ≥ y
(e) x ≤ y

Q56. I. 6x² + x – 2 = 0
II. 10y² – 23y - 5 = 0

Q57. I. 12x² – 12x = 13x – 12
II. 12y² – 13y + 3 = 0

Q58. I. x² + 14x - 32 = 0
II. y² – y – 12 = 0

Q59. I. x² – 9x + 20 = 0
II. 2y² – 12y + 18 = 0

Q60. I. $x - 5 = -\frac{6}{x}$
II. $y - 4 = -\frac{4}{y}$

Directions (61-65): In each question two equations numbered (I) and (II) are given. You have to solve both the equations and mark appropriate answer.
(a) If $x < y$
(b) If $x > y$
(c) If $x \geq y$
(d) If $x \leq y$
(e) If $x = y$ or no relation can be established.

Q61. I. $2x^2 - 17x + 36 = 0$
 II. $3y^2 - 22y + 40 = 0$

Q62. I. $x^2 + 21x + 108 = 0$
 II. $y^2 + 14y + 48 = 0$

Q63. I. $2x^2 + 7x – 60 = 0$
 II. $3y^2 - 28y + 64 = 0$

Q64. I. $x^2 - 2x – 24 = 0$
 II. $y^2 + 3y – 40 = 0$

Q65. I. $x^3 = 729$
II. $y^2 - 15y + 54 = 0$

Directions (66-70): Two equations I and II are given below in each question. You have to solve these equations and give answer accordingly.
(a) if x<y
(b) if x>y
(c) if x≤y
(d) if x≥y
(e) if x=y or no relation can be established

Q66. I. $3x^2 + 17x + 10 = 0$
II. $10y^2 + 9y + 2 = 0$

Q67. I. $4x^2 = 49$
II. $9y^2 - 66y + 121 = 0$

Q68. I. $3x^2 + 5x + 2 = 0$
II. $y^2 + 12y + 27 = 0$

Q69. I. $x^2 - 7x + 10 = 0$
II. $y^2 - 14y + 45 = 0$

Q70. I. $6x^2 - 49x + 99 = 0$
II. $5y^2 + 17y + 14 = 0$

Directions (71-75): In each of these questions, two equations (I) and (II) are given. You have to solve both the equations and give answer.
(a) if x>y
(b) if x≥y
(c) if x<y
(d) if x ≤y
(e) if x = y or no relation can be established between x and y.

Q71. (I) $8x^2 – 10x + 3 = 0$
(II) $5y^2 + 14y – 3 = 0$

Q72. (I) $3x^2 + 13x + 12 = 0$
(II) $y^2 + 9y + 20 = 0$

Q73. (I) $x^2-4x-5=0$
(II) $7y^2-25y-12=0$

Q74. (I) $x^3=216$
(II) $2y^2-25y+78=0$

Q75. (I) $5x^2 + 31x + 48 = 0$
(II) $3y^2 + 27y + 42 = 0$

Directions (76-80): In each of these questions, two equations (I) and (II) are given. You have to solve both the equations and give answer
(a) if x>y
(b) if x≥y
(c) if x<y
(d) if x ≤y
(e) if x = y or no relation can be established between x and y

Q76. I. $(x-2)^2 - 4 = 0$
II. $y^2 + 1 - 2y = 0$

Q77. I. $3x + 2y = 5$
II. $4x + 6y = 10$

Q78. I. $9x^2 - 54x + 77 = 0$
II. $12y^2 - 55y + 63 = 0$

Q79. I. $(x-1)^2 = 121$
II. $y^2 - 24y + 144 = 0$

Q80.I. $7x^2 - 23x + 6 = 0$
II. $y^2 - 7y + 12 = 0$

Directions (81-85): In each of these questions, two equations (I) and (II) are given. Solve the equations and mark the correct option:
(a) if x>y
(b) if x≥y
(c) if x<y
(d) if x ≤y
(e) if x = y or no relation can be established between x and y.

Q81. I. $x^2 + x - 12 = 0$
II. $y^2 - 9y + 14 = 0$

Q82. I. $6x^2 + 5x + 1 = 0$
II. $4y^2 - 15y = 4$

Q83. I. $3x^2 + x - 2 = 0$
II. $12y^2 + 7y + 1 = 0$

Q84. I. $x^2 + 13x + 42 = 0$
II. $y^2 + 8y + 12 = 0$

Q85. I. $1 = \frac{1}{x}\left(2 - \frac{11}{36x}\right)$
II. $\left(\frac{14y}{3} + \frac{9}{y}\right) = 13$
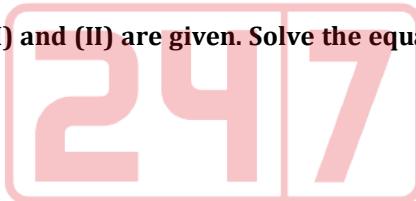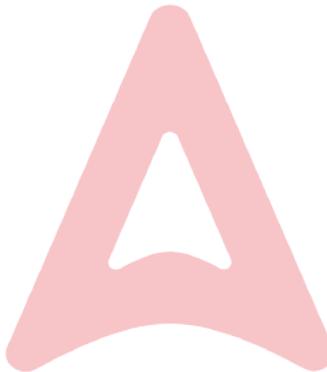
Directions (86-90): In each of these questions, two equation (I) and (II) are given. You have to solve both the equations and give answer
(a) If x>y
(b) If x≥y
(c) If x<y
(d) If x≤y
(e) If x = y or no relation can be established between x and y

Q86. I. $2x^2 - 31x + 84 = 0$
II. $3y^2 + y - 2 = 0$

Q87. I. $x^2 - 30x + 216 = 0$
II. $y^2 - 21y + 108 = 0$

Q88. I. $x^2 - 8x + 15 = 0$
II. $y^2 - 11y + 30 = 0$

Q89. I. $3x^2 - 13x + 14 = 0$
II. $2y^2 - 17y + 33 = 0$

Q90. I. $x^2 + 11x + 28 = 0$
II. $y^2 - 22y + 105 = 0$

Directions (91-95): In each of these questions, two equation (I) and (II) are given. You have to solve both the equations and give answer
(a) If x>y
(b) If x≥y
(c) If x<y
(d) If x≤y
(e) If x = y or no relation can be established between x and y

Q91. I. $12x^2 + 10x - 8 = 0$
II. $16y^2 + 7y - 9 = 0$

Q92. I. $2x^2 + 7x + 5 = 0$
II. $y^2 + y - 210 = 0$

Q93. I. $8x^2 + 10x - 7 = 0$
II. $y^2 - 6y + 8 = 0$

Q94. I. $x^2 + 11x + 30 = 0$
II. $y^2 + 16y + 60 = 0$

Q95. I. $x^2 - 7x + 12 = 0$
II. $y^2 + 2y - 63 = 0$

Direction (96–100): In each question two equations numbered (I) and (II) are given. You should solve both equations and mark the appropriate answer.
(a) If x = y or no relation can be established
(b) If x > y
(c) If x < y
(d) If x ≥ y
(e) If x ≤ y

Q96. I. $x^2 + 9x + 18 = 0$
II. $12y^2 + 16y + 5 = 0$

Q97. I. $x^2 = \sqrt[3]{4096}$
II. $y^2 - 10y + 24 = 0$

Q98. I. $12x^2 - 11x + 2 = 0$
II. $6y^2 - 5y + 1 = 0$

Q99. I. $6x^2 + 11x + 5 = 0$
II. $7y^2 + 11y + 4 = 0$

Q100. I. $6x^2 + 10x + 4 = 0$
II. $6y^2 + 7y + 2 = 0$

Solutions

S1. Ans.(d)
Sol. I. $x^2 + 13x - 114 = 0$
$x^2 + 19x - 6x - 114 = 0$
$x(x + 19) - 6(x + 19) = 0$
$(x + 19)(x - 6) = 0$
$x = -19, 6$
II. $y^3 = 216$
$y^3 = 6^3$
$y = 6$
So, $x \le y$, i.e. x is less than or equal to y

S2. Ans.(a)
Sol. I. $x^2 - 6x + 8 = 0$
$x^2 - 2x - 4x + 8 = 0$
$x(x - 2) - 4(x - 2) = 0$
$(x - 2)(x - 4) = 0$
$x = 2, 4$
II. $y^2 + 4y + 3 = 0$
$y^2 + y + 3y + 3 = 0$
$y(y + 1) + 3(y + 1) = 0$
$(y + 1)(y + 3) = 0$
$y = -1, -3$
So, $x > y$

S3. Ans.(b)
Sol. I. $12x^2 - 7x + 1 = 0$
$12x^2 - 4x - 3x + 1 = 0$
$4x(3x - 1) - 1(3x - 1) = 0$
$(3x - 1)(4x - 1) = 0$
$x = \frac{1}{3}, \frac{1}{4}$
II. $20y^2 - 9y + 1 = 0$
$20y^2 - 5y - 4y + 1 = 0$
$5y(4y - 1) - 1(4y - 1) = 0$
$(4y - 1)(5y - 1) = 0$
$y = \frac{1}{4}, \frac{1}{5}$
So, $x \ge y$

S4. Ans.(e)
Sol. I. $x^2 + 26x + 165 = 0$
$x^2 + 11x + 15x + 165 = 0$
$x(x + 11) + 15(x + 11) = 0$
$(x + 11)(x + 15) = 0$
$x = -11, -15$

II. $y^2 + 23y + 132 = 0$
$y^2 + 11y + 12y + 132 = 0$
$y(y + 11) + 12(y + 11) = 0$
$(y + 11)(y + 12) = 0$
$y = -11, -12$
So, no relation can be stablished

S5. Ans.(e)
Sol. I. I. $x^2 + x - 6 = 0$
$x^2 - 2x + 3x - 6 = 0$
$x(x - 2) + 3(x - 2) = 0$
$(x - 2)(x + 3) = 0$
$x = -3, 2$
II. $15y^2 - 11y + 2 = 0$
$15y^2 - 6y - 5y + 2 = 0$
$3y(5y - 2) - 1(5y - 2) = 0$
$(5y - 2)(3y - 1) = 0$
$y = \frac{2}{5}, \frac{1}{3}$
So, no relation can be established.

S6. Ans.(c)
Sol. (i) x² = 73−9
x = ± 8
(ii) y = + 8
So, $x \leq y$

S7. Ans.(a)
Sol. (i) x² + 9x + 2x + 18 = 0
x(x + 9) + 2(x + 9) = 0
x = −2, −9
(ii) y² + 10y + 9y + 90 =0
y(y + 10) + 9(y + 10) =0
y = −9, −10
So, $x \geq y$

S8. Ans.(a)
Sol. (i). $x^2 - 3x - 7x + 21 = 0$
$x(x - 3) - 7(x - 3) = 0$
$(x - 7)(x - 3) = 0$
$x = 7, 3$
(ii). $y^2 - 3y - 2y + 6 = 0$
$y(y - 3) - 2(y - 3) = 0$
$(y - 3)(y - 2) = 0$
$y = 3, 2$
So, $x \geq y$

S9. Ans.(e)
Sol. (i) 2x² + x − 1 = 0
2x² + 2x − x − 1 = 0
2x(x + 1) −1$(x + 1) = 0$
x = $\frac{1}{2}$, −1
(ii) 2y² + 3y + 1 =0
2y² + 2y + y + 1 =0
2y(y + 1)+ 1(y + 1) = 0
y = −1, $-\frac{1}{2}$
So, no relation can be established between x and y

S10. Ans.(e)
Sol. (i). $2x^2 + 7x + 6x + 21 = 0$
$x(2x+7) + 3(2x+7) = 0$
$(2x+7)(x+3) = 0$
x = -3, -3.5
(ii). $2y^2 + 7y + 4y + 14 = 0$
$y(2y+7) + 2(2y+7) = 0$
y = -2, -3.5
So, no relation can be established between x and y

S11. Ans.(d)
Sol. I. x = 11
II. y = ±11
So, x≥y

S12. Ans.(b)
Sol. I. $12x^2 - 7x + 1 = 0$
$12x^2 - 4x - 3x + 1 = 0$
$4x(3x - 1) - 1(3x - 1) = 0$
$(3x - 1)(4x - 1) = 0$
$x = \frac{1}{3}, \frac{1}{4}$
II. $y^2 + 23y + 132 = 0$
$y^2 + 11y + 12y + 132 = 0$
$y(y + 11) + 12(y + 11) = 0$
$(y + 11)(y + 12) = 0$
$y = -11, -12$
So, x>y

S13. Ans.(a)
Sol. I. $x^2 + 9x - 52 = 0$
$x^2 + 13x - 4x - 52 = 0$
$x(x+13) - 4(x+13) = 0$
$(x+13)(x - 4) = 0$
x = -13, 4
II. $12y^2 + 16y + 4 = 0$
$12y^2 + 12y + 4y + 4 = 0$
$12y(y+1) + 4(y+1) = 0$
$(12y+4)(y+1) = 0$
$Y = -\frac{1}{3}, -1$
So, no relation can be established.

S14. Ans.(e)
Sol. I. $x^2 - x - 210 = 0$
$x^2 - 15x + 14x - 210 = 0$
$x(x - 15) + 14(x - 15) = 0$
$(x+14)(x - 15) = 0$
x = -14, 15
II. $y^2 - 31y + 240 = 0$
$y^2 - 16y - 15y + 240 = 0$
$y(y - 16) - 15(y - 16) = 0$
$(y - 16)(y - 15) = 0$
y = 16, 15
so, x≤y

S15. Ans.(a)
Sol. I. $2x^2 - 8x - 24 = 0$
$x^2 - 4x - 12 = 0$
$x^2 - 6x + 2x - 12 = 0$
$x = 6, -2$
II. $9y^2 - 12y + 4 = 0$
$9y^2 - 6y - 6y + 4 = 0$
$3y(3y - 2) - 2(3y - 2) = 0$
$(3y - 2)(3y - 2) = 0$
$y = \frac{2}{3}, \frac{2}{3}$
So, no relation can be established.

S16. Ans.(e)
Sol. I. $2x^2 - 7x + 5 = 0$
$2x^2 - 2x - 5x + 5 = 0$
$(x - 1)(2x - 5) = 0$
$x = 1, 2.5$
II. $y^2 - 3y + 2 = 0$
$y^2 - y - 2y + 2 = 0$
$(y - 1)(y - 2) = 0$
$y = 1, 2$
$\therefore$ no relation

S17. Ans.(c)
Sol. I. $x^2 - 25x + 156 = 0$
$x^2 - 12x - 13x + 156 = 0$
$(x - 12)(x - 13) = 0$
$x = 12, 13$
II. $y^2 - 29y + 210 = 0$
$y^2 - 14y - 15y + 210 = 0$
$(y - 14)(y - 15) = 0$
$y = 14, 15$
$\therefore y > x$

S18. Ans.(d)
Sol. I. $x^2 + 20x + 96 = 0$
$x^2 + 8x + 12x + 96 = 0$
$(x + 8)(x + 12) = 0$
$x = -8, -12$
II. $y^2 + 15y + 56 = 0$
$y^2 + 7y + 8y + 56 = 0$
$(y + 7)(y + 8) = 0$
$y = -7, -8$
$\therefore x \le y$

S19. Ans.(e)
Sol. I. $x^2 - 3x - 40 = 0$
$x^2 - 8x + 5x - 40 = 0$
$x(x - 8) + 5(x - 8) = 0$
$(x - 8)(x + 5) = 0$
$x = 8, -5$
II. $2y^2 + 11y + 15 = 0$
$2y^2 + 6y + 5y + 15 = 0$
$2y(y + 3) + 5(y + 3) = 0$
$(2y + 5)(y + 3) = 0$
$y = \frac{-5}{2}, -3$
So, the relationship cannot be established.

S20. Ans.(b)
Sol. I. $x^2 - 16x + 64 = 0$
$x^2 - 8x - 8x + 64 = 0$
$x(x - 8) - 8(x - 8) = 0$
$(x - 8)(x - 8) = 0$
$x = 8, 8$
II. $y^2 - 14y + 48 = 0$
$y^2 - 8y - 6y + 48 = 0$
$y(y - 8) - 6(y - 8) = 0$
$(y - 8)(y - 6) = 0$
$y = 8, 6$
$x \geq y$

S21. Ans.(d)
Sol. I. $x^2 - 3x - 108 = 0$
$x^2 - 12x + 9x - 108 = 0$
$x = 12, -9$
II. $y^2 - 26y + 168 = 0$
$y^2 - 12y - 14y + 168 = 0$
$y = 12, 14$
So, x≤y

S22. Ans.(e)
Sol. I. $3x^2 - 23x + 20 = 0$
$3x^2 - 3x - 20x + 20 = 0$
$x = \frac{20}{3}, 1$
II. $6y^2 - 31y + 18 = 0$
$6y^2 - 27y - 4y + 18 = 0$
$y = \frac{9}{2}, \frac{2}{3}$
So, no relation can be established between x and y

S23. Ans.(c)
Sol. I. $12x^2 + 22x - 11 = 0$
$12x^2 + 22x - 6x - 11 = 0$
$x = -\frac{11}{6}, \frac{1}{2}$
II. $7y^2 - 22y + 15 = 0$
$7y^2 - 7y - 15y + 15 = 0$
$y = \frac{15}{7}, 1$
So, x<y

S24. Ans.(c)
Sol. I. $x^2 + 7x - 8 = 0$
$x^2 + 8x - x - 8 = 0$
$x = -8, 1$
II. $3y^2 - 14y + 15 = 0$
$3y^2 - 9y - 5y + 15 = 0$
$y = 3, \frac{5}{3}$
So, x<y

S25. Ans.(d)
Sol. I. $x^2 - 13x + 42 = 0$
$x^2 - 7x - 6x + 42 = 0$
$x = 7, 6$
II. $y^2 - 15y + 56 = 0$
$y^2 - 7y - 8y + 56 = 0$
$y = 7, 8$
So, x≤y

S26. Ans.(a)
Sol. I. $3x^2 - 35x + 98 = 0$
$3x^2 - 21x - 14x + 98 = 0$
$x = 7, \frac{14}{3}$
II. $2y^2 + 9y - 45 = 0$
$2y^2 - 6y + 15y - 45 = 0$
$y = -7.5, 3$
So, x>y

S27. Ans.(b)
Sol. I. $x^3 - 43 = 1685$
$x^3 = 1728$
$x = 12$
II. $2y^2 = 288$
$y = -12, 12$
So, x≥y

S28. Ans.(d)
Sol. I. $x^2 + 25x + 114 = 0$
$x^2 + 6x + 19x + 114 = 0$
$x = -6, -19$
II. $y^2 + 11y + 30 = 0$
$y^2 + 5y + 6y + 30 = 0$
$y = -5, -6$
So, x≤y

S29. Ans.(e)
Sol. I. $9x^2 - 54x + 80 = 0$
$9x^2 - 30x - 24x + 80 = 0$
$x = \frac{8}{3}, \frac{10}{3}$
II. $8y^2 - 46y + 65 = 0$
$8y^2 - 20y - 26y + 65 = 0$
$y = \frac{5}{2}, \frac{13}{4}$
So, no relation can be established between x and y.

S30. Ans.(e)
Sol. I. $x^2 - x - 56 = 0$
$x^2 - 8x + 7x - 56 = 0$
$x = 8, -7$
II. $y^2 - 20y + 91 = 0$
$y^2 - 13y - 7y + 91 = 0$
$y = 13, 7$
So, no relation can be established between x and y.

S31. Ans.(d)
Sol. I. $x^2 + 3x - 154 = 0$
$x^2 + 14x - 11x - 154 = 0$
$x = -14, 11$
II. $y^2 - 29y + 198 = 0$
$y^2 - 11y - 18y + 198 = 0$
$y = 11, 18$
So, x≤y

S32. Ans.(e)
Sol. I. $2x^2 - 25x + 42 = 0$
$2x^2 - 4x - 21x + 42 = 0$
$x = 10.5, 2$
II. $3y^2 - 32y + 85 = 0$
$3y^2 - 15y - 17y + 85 = 0$
$y = \frac{17}{3}, 5$
So, no relation can be established between x and y

S33. Ans.(e)
Sol. I. $5x^2 - 24x + 19 = 0$
$5x^2 - 5x - 19x + 19 = 0$
$x = 1, \frac{19}{5}$
II. $4y^2 - 19y + 21 = 0$
$4y^2 - 12y - 7y + 21 = 0$
$y = 3, \frac{7}{4}$
So, no relation can be established between x and y

S34. Ans.(b)
Sol. I. $x^2 + 2x - 224 = 0$
$x^2 + 16x - 14x - 224 = 0$
$x = -16, 14$
II. $y^2 + 34y + 288 = 0$
$y^2 + 16y + 18y + 288 = 0$
$y = -16, -18$
So, x≥y

S35. Ans.(d)
Sol. I. $x^2 - 48 = 313$
$x^2 = 361$
$x = -19, 19$
II. $y^3 = 6859$
$y = 19$
So, x≤y

S36. Ans.(e)
Sol. I. $x^2 - 3x - 88 = 0$
$x^2 - 11x + 8x - 88 = 0$
$x(x - 11) + 8(x - 11) = 0$
$(x + 8)(x - 11) = 0$
$x = -8, 11$
II. $y^2 + 8y - 48 = 0$
$y^2 + 12y - 4y - 48 = 0$
$y(y + 12) - 4(y + 12) = 0$
$(y - 4)(y + 12) = 0$
$y = 4, -12$
So, no relation can be established between x and y

S37. Ans.(e)
Sol. I. $2x^2 + 21x + 10 = 0$
$2x^2 + 20x + 1x + 10 = 0$
$2x(x + 10) + 1(x + 10) = 0$
$(2x + 1)(x + 10) = 0$
$x = -\frac{1}{2}, -10$

II. $3y^2 + 13y + 14 = 0$

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

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

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

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

So, no relation can be established between x and y

S38. Ans.(b)

Sol. I. $x^3 = 27$

$x = 3$

II. $y^2 + 3y - 18 = 0$

$y^2 + 6y - 3y - 18 = 0$

$y(y + 6) - 3(y + 6) = 0$

$(y - 3)(y + 6) = 0$

$y = 3. -6t$

So, x≥ y

S39. Ans.(e)

Sol. I. $x^2 + 2x - 8 = 0$

$x^2 + 4x - 2x - 8 = 0$

$x(x + 4) - 2(x + 4) = 0$

$(x - 2)(x + 4) = 0$

$x = 2, -4$

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

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

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

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

$y = -4, 3$

So, no relation can be established between x and y

S40. Ans.(d)

Sol. I. $2x^2 - 7x + 6 = 0$

$2x^2 - 4x - 3x + 6 = 0$

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

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

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

II. $y^2 - 9y + 14 = 0$

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

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

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

$y = 2, 7$

So, x≤ y

S41. Ans.(d)

Sol. I. $x^2 + 3x - 40 = 0$

$x^2 + 8x - 5x - 40 = 0$

$x = -8, 5$

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

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

$y = 6, 5$

So, x≤y

S42. Ans.(e)
Sol. I. $2x^2 + 7x - 15 = 0$
$2x^2 + 10x - 3x - 15 = 0$
$x = 1.5, -5$
II. $3y^2 + 5y - 12 = 0$
$3y^2 + 9y - 4y - 12 = 0$
$y = \frac{4}{3}, -3$
So, no relation can be established between x and y

S43. Ans.(b)
Sol. I. $2x^2 + 26x + 84 = 0$
$x^2 + 13x + 42 = 0$
$x = -7, -6$
II. $y^2 + 15y + 56 = 0$
$y^2 + 8y + 7y + 56 = 0$
$y = -8, -7$
So, x≥y

S44. Ans.(b)
Sol. I. $x^2 + 2x - 224 = 0$
$x^2 + 16x - 14x - 224 = 0$
$x = -16, 14$
II. $y^2 + 34y + 288 = 0$
$y^2 + 16y + 18y + 288 = 0$
$y = -16, -18$
So, x≥y

S45. Ans.(c)
Sol. I. $x^2 - 4x = 221$
$x^2 - 4x - 221 = 0$
$x^2 - 17x + 13x - 221 = 0$
$x = 17, -13$
II. $y^3 = 6859$
$y = 19$
So, x<y

S46. Ans.(d)
Sol. I. $x^2 - 4x - 21 = 0$
$x^2 - 7x + 3x - 21 = 0$
$x = 7, -3$
II. $y^2 - 15y + 56 = 0$
$y^2 - 7y - 8y + 56 = 0$
$y = 7, 8$
So, x≤y

S47. Ans.(e)
Sol. I. $2x^2 - 17x - 19 = 0$
$2x^2 + 2x - 19x - 19 = 0$
$x = -1, 9.5$
II. $3y^2 + 8y - 11 = 0$
$3y^2 + 11y - 3y - 11 = 0$
$y = -\frac{11}{3}, 1$
So, no relation can be established between x and y.

S48. Ans.(e)
Sol. I. $7x^2 - 18x - 25 = 0$
$7x^2 + 7x - 25x - 25 = 0$
$x = \frac{25}{7}, -1$
II. $9y^2 - 15y - 14 = 0$
$9y^2 - 21y + 6y - 14 = 0$
$y = \frac{7}{3}, -\frac{2}{3}$
So, no relation can be established between x and y.

S49. Ans.(d)
Sol. I. $x^2 - 57 = 304$
$x^2 = 361$
$x = -19, 19$
II. $y = \sqrt{361}$
$y = 19$
So, x≤y

S50. Ans.(a)
Sol. I. $x = \sqrt{(18 \times 4) - 16 \div 2}$
$x = \sqrt{72 - 8}$
$x = 8$
II. $y^2 = 13y - 42$
$y^2 - 7y - 6y + 42 = 0$
$y = 7, 6$
So, x>y

S51. Ans.(e)
Sol. (i) x² – 12x + 32 = 0
x² – 8x – 4x + 32 = 0
x (x – 8) – 4 (x – 8) = 0
(x – 8) (x – 4) = 0
x = 8, 4
(ii) y² – 20y + 96 = 0
y² – 12y – 8y + 96 = 0
y(y – 12) – 8 (y – 12) = 0
(y – 8) (y – 12) = 0
y = 8, 12
y ≥ x

S52. Ans.(b)
Sol. (i) 2x² – 3x – 20 = 0
2x² – 8x + 5x – 20 = 0
2x (x – 4) + 5(x – 4) = 0
(x – 4) (2x + 5) = 0
x = 4, –5/2
(ii) 2y² + 11y + 15 = 0
2y² + 6y + 5y + 15 = 0
2y (y + 3) + 5 (y + 3) =0
(2y + 5) (y + 3) =0
$y = \frac{-5}{2}, -3$
x ≥ y

S53. Ans.(c)
Sol. (i) $x^2 - x - 6 = 0$
$x^2 - 3x + 2x - 6 = 0$
$x(x - 3) + 2(x - 3) = 0$
$(x - 3)(x + 2) = 0$
$x = 3, -2$
(ii) $y^2 - 6y + 8 = 0$
$y^2 - 2y - 4y + 8 = 0$
$y(y - 2) - 4(y - 2) = 0$
$(y - 2)(y - 4) = 0$
$y = 2, 4$
No relation can be established between x and y

S54. Ans.(c)
Sol. (i) $x^2 + 14x - 32 = 0$
$x^2 + 16x - 2x - 32 = 0$
$x(x + 16) - 2(x + 16) = 0$
$(x - 2)(x + 16) = 0$
$x = -16, 2$
(ii) $y^2 - y - 12 = 0$
$y^2 - 4y + 3y - 12 = 0$
$y(y - 4) + 3(y - 4) = 0$
$(y + 3)(y - 4) = 0$
$y = -3, 4$
No relation can be established between x and y

S55. Ans.(a)
Sol. (i) $x^2 - 9x + 20 = 0$
$x^2 - 5x - 4x + 20 = 0$
$x(x - 5) - 4(x - 5) = 0$
$(x - 4)(x - 5) = 0$
$x = 4, 5$
(ii) $2y^2 - 12y + 18 = 0$
$y^2 - 6y + 9 = 0$
$y = 3, 3$
$x > y$

S56. Ans.(c)
Sol. I. $6x^2 + x - 2 = 0$
$\Rightarrow 6x^2 + 4x - 3x - 2 = 0$
$\Rightarrow (2x - 1)(3x + 2) = 0$
$\Rightarrow x = \frac{1}{2}, -\frac{2}{3}$
II. $10y^2 - 23y - 5 = 0$
$\Rightarrow 10y^2 - 25y + 2y - 5 = 0$
$\Rightarrow (2y - 5)(5y + 1) = 0$
$\Rightarrow y = \frac{5}{2}, -\frac{1}{5}$
So, no relation established between x & y.

S57. Ans.(d)
Sol. I. $12x^2 - 12x = 13x - 12$
$12x^2 - 25x + 12 = 0$
$\Rightarrow 12x^2 - 16x - 9x + 12 = 0$
$\Rightarrow (4x - 3)(3x - 4) = 0$
$\Rightarrow x = \frac{3}{4}, \frac{4}{3}$

II. $12y^2 - 13y + 3 = 0$

$\Rightarrow 12y^2 - 4y - 9y + 3 = 0$

$\Rightarrow 12y^2 - 4y - 9y + 3 = 0$

$\Rightarrow 4y(3y - 1) - 3(3y - 1) = 0$

$\Rightarrow (4y - 3)(3y - 1) = 0$

$\Rightarrow y = \frac{3}{4}, \frac{1}{3}$

So, $x \geq y$

S58. Ans.(c)

Sol. I. $x^2 + 14x - 32 = 0$

$x^2 + 16x - 2x - 32 = 0$

$x(x + 16) - 2(x + 16) = 0$

$(x - 2)(x + 16) = 0$

$x = -16, 2$

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

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

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

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

$y = -3, 4$

No relation

S59. Ans.(a)

Sol. I. $x^2 - 9x + 20 = 0$

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

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

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

$x = 4, 5$

II. $2y^2 - 12y + 18 = 0$

$2y^2 - 6y - 6y + 18 = 0$

$2y(y - 3) - 6(y - 3) = 0$

$(2y - 6)(y - 3) = 0$

$y = 3, 3$

$x > y$

S60. Ans.(d)

Sol. I. $x - 5 = -\frac{6}{x}$

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

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

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

$x = 2, 3$

II. $y - 4 = -\frac{4}{y}$

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

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

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

$y = 2, 2$

So, $x \geq y$

S61. Ans.(c)

Sol. I. $2x^2 - 17x + 36 = 0$

$2x^2 - 8x - 9x + 36 = 0$

$2x(x - 4) - 9(x - 4) = 0$

$(2x - 9)(x - 4) = 0$

$x = \frac{9}{2}, 4$

II. $3y^2 - 22y + 40 = 0$
$3y^2 - 12y - 10y + 40 = 0$
$3y(y - 4) - 10 (y - 4) = 0$
$(y - 4) (3y - 10) = 0$
$y = 4, \frac{10}{3}$
$x \geq y$

S62. Ans.(a)
Sol. I. $x^2 + 21x + 108 = 0$
$x^2 + 9x + 12x + 108 = 0$
$x(x + 9) + 12 (x + 9) = 0$
$(x + 12) (x + 9) = 0$
$x = -12, -9$
II. $y^2 + 14y + 48 = 0$
$y^2 + 6y + 8y + 48 = 0$
$y(y + 6) + 8 (y + 6) = 0$
$(y + 8) (y + 6) = 0$
$y = -8, -6$
$y > x$

S63. Ans.(d)
Sol. I. $2x^2 + 7x - 60 = 0$
$2x^2 + 15x - 8x - 60 = 0$
$x(2x + 15) - 4 (2x + 15) = 0$
$(x - 4) (2x + 15) = 0$
$x = 4, \frac{-15}{2}$
II. $3y^2 - 28y + 64 = 0$
$3y^2 - 12y - 16y + 64 = 0$
$3y (y - 4) - 16 (y - 4) = 0$
$(3y - 16) (y - 4) = 0$
$y = \frac{16}{3}, 4$
$y \geq x$

S64. Ans.(e)
Sol. I. $x^2 - 2x - 24 = 0$
$x^2 - 6x + 4x - 24 = 0$
$x(x - 6) + 4 (x - 6) = 0$
$(x + 4) (x - 6) = 0$
$x = 6, -4$
II. $y^2 + 3y - 40 = 0$
$y^2 + 8y - 5y - 40 = 0$
$y(y + 8) - 5 (y + 8) = 0$
$(y - 5) (y + 8) = 0$
$x = 5, -8$
No relation can be established

S65. Ans.(c)
Sol. I. $x^3 = 729$
$x = \sqrt[3]{729}$
$x = 9$
II. $y^2 - 15y + 54 = 0$
$y^2 - 6y - 9y + 54 = 0$
$y(y - 6) - 9(y - 6) = 0$
$(y - 6)(y - 9) = 0$
$y = 9, 6$
So, $x \geq y$.

S66. Ans.(a)
Sol. I. $3x^2 + 17x + 10 = 0$
$\Rightarrow 3x^2 + 15x + 2x + 10 = 0$
$\Rightarrow 3x(x + 5) + 2(x + 5) = 0$
$\Rightarrow (3x + 2)(x + 5) = 0$
$\Rightarrow x = -5, \left(-\frac{2}{3}\right)$
II. $10y^2 + 9y + 2 = 0$
$\Rightarrow 10y^2 + 5y + 4y + 2 = 0$
$\Rightarrow 5y(2y + 1) + 2(2y + 1) = 0$
$\Rightarrow (5y + 2)(2y + 1) = 0$
$\Rightarrow y = \frac{-2}{5}, -\frac{1}{2}$
$\therefore x < y$

S67. Ans.(a)
I. $4x^2 = 49$
$\therefore x = \pm\frac{7}{2}$
II. $9y^2 - 66y + 121 = 0$
$9y^2 - 33y - 33y + 121 = 0$
$y = \frac{11}{3}, \frac{11}{3}$
$y > x$

S68. Ans.(b)
Sol. I. $3x^2 + 3x + 2x + 2 = 0$
$\Rightarrow 3x(x + 1) + 2(x + 1) = 0$
$\Rightarrow x = -1, \frac{-2}{3}$

II. $y^2 + 9y + 3y + 27 = 0$
$\Rightarrow y(y + 9) + 3(y + 9) = 0$
$\Rightarrow y = -3, -9$

$\therefore x > y$

S69. Ans.(c)
Sol. I. $x^2 - 5x - 2x + 10 = 0$
$\Rightarrow x(x - 5) - 2(x - 5) = 0$
$\Rightarrow x = 2, 5$

II. $y^2 - 9y - 5y + 45 = 0$
$\Rightarrow y(y - 9) - 5(y - 9) = 0$
$\Rightarrow y = 9, 5$

$\therefore x \leq y$

S70. Ans.(b)
Sol. I. $6x^2 - 49x + 99 = 0$
Or, $6x^2 - 27x - 22x + 99 = 0$
Or, $3x(2x - 9) - 11(2x - 9) = 0$
Or, $(3x - 11)(2x - 9) = 0$
$\therefore x = \frac{11}{3}, \frac{9}{2}$
II. $5y^2 + 17y + 14 = 0$
$or, 5y^2 + 10y + 7y + 14 = 0$
$or, 5y(y + 2) + 7(y + 2) = 0$
$or, (5y + 7)(y + 2) = 0$
$\therefore y = -2, -\frac{7}{5}$
Hence, $x > y$

S71. Ans.(a)
Sol. (I) $8x^2-10x+3=0$
$8x^2-6x-4x+3=0$
$2x(4x-3)-1(4x-3)=0$
$(2x-1)(4x-3)=0$
$x=\frac{1}{2}$ or $\frac{3}{4}$
(II) $5y^2 + 14y-3=0$
$5y^2+15y-y-3=0$
$5y(y+3)-1(y+3)=0$
$(5y-1)(y+3)=0$
$y=\frac{1}{5}$ or -3.
∴ x > y

S72. Ans.(a)
Sol. (I) $3x^2+13x+12=0$
$3x^2+9x+4x+12=0$
$3x(x+3) +4(x+3) =0$
$x=-3$, $-\frac{4}{3}$
(II) $y^2+9y+20=0$
$y^2+5y+4y+20=0$
$y(y+5) + 4(y+5) =0$
$y=-5$, -4
∴ x > y

S73. Ans.(e)
Sol. (I) $x^2-4x-5=0$
$x^2-5x+x-5=0$
$x(x-5) +1(x-5) =0$
$x=5$, -1.
(II) $7y^2-25y-12=0$
$7y^2-28y+3y-12=0$
$7y(y-4)+3(y-4)=0$
$(y-4) (7y+3) = 0$
$y= 4$, $-3/7$
∴ No relation.

S74. Ans.(d)
Sol. (I) $x^3=216$
$x=(216)^{1/3}$
$x=6$
(II) $2y^2-25y+78=0$
$2y^2-12y-13y+78=0$
$2y(y-6)-13(y-6) =0$
$y=\frac{13}{2}$, 6.
∴ y≥x.

S75. Ans.(e)
Sol. (i) $5x^2 + 31x + 48 = 0$
$5x^2 + 15x + 16x + 48 = 0$
$5x (x + 3) + 16 (x + 3) = 0$
$x = -3, -16/5$
(ii) $3y^2 + 27y + 42 = 0$
$3y^2 + 21y + 6y + 42 = 0$
$3y (y + 7) + 6 (y + 7) = 0$
$y = -7, -2$
So, Relation cannot be established

S76. Ans.(e)
Sol. I. $(x-2)^2 = 4$
$x - 2 = \pm 2$
$x = 0, 4$
II. $y^2 - 2y + 1 = 0$
$(y-1)^2 = 0$
$y = 1$
∴ no relation can be obtained.

S77. Ans.(e)
Sol. I. $3x + 2y = 5$
II. $4x + 6y = 10$
Multiplying (I) by 4 and (II) by 3 and equating both equations.
x = y = 1
∴ $x = y$

S78. Ans.(b)
Sol. I. $9x^2 - 54x + 77 = 0$
$9x^2 - 21x - 33x + 77 = 0$
$3x(3x-7) - 11(3x-7) = 0$
$(3x-7)(3x-11) = 0$
$x = \frac{7}{3}, \frac{11}{3}$
II. $12y^2 - 55y + 63 = 0$
$12y^2 - 28y - 27y + 63 = 0$
$4y(3y-7) - 9(3y-7) = 0$
$(4y-9)(3y-7) = 0$
$y = \frac{9}{4}, \frac{7}{3}$
So, $x \geq y$
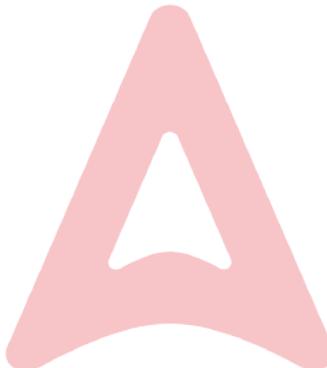
S79. Ans.(d)
Sol. I. $(x-1)^2 = 121$
$x - 1 = \pm 11$
$x = 12, -10$
II. $y^2 - 24y + 144 = 0$
$(y-12)^2 = 0$
$y = 12$
So, $y \geq x$

S80. Ans.(d)
Sol. I. $7x^2 - 23x + 6 = 0$
$7x^2 - 21x - 2x + 6 = 0$
$7x(x-3) - 2(x-3) = 0$
$x = 3, \frac{2}{7}$
II. $y^2 - 7y + 12 = 0$
$y^2 - 3y - 4y + 12 = 0$
$y(y-3) - 4(y-3) = 0$
$y = 3, 4$
So, $y \geq x$

S81. Ans.(e)
Sol. I. $x^2 + x - 12 = 0$
$x^2 + 4x - 3x - 12 = 0$
$(x + 4)(x - 3) = 0$
$x = -4, 3$
II. $y^2 - 9y + 14 = 0$
$y^2 - 7y - 2y + 14 = 0$
$(y - 7)(y - 2) = 0$
$y = 2, 7$
⇒ no relation can be established between x & y.

S82. Ans.(c)
Sol. I. $6x^2 + 5x + 1 = 0$
$6x^2 + 3x + 2x + 1 = 0$
$(3x + 1)(2x + 1) = 0$
$x = \frac{-1}{3}, \frac{-1}{2}$
II. $4y^2 - 15y = 4$
$4y^2 - 15y - 4 = 0$
$4y^2 - 16y + y - 4 = 0$
$(4y + 1)(y - 4) = 0$
$y = \frac{-1}{4}, 4$
⇒ x < y

S83. Ans.(e)
Sol. I. $3x^2 + x - 2 = 0$
$3x^2 + 3x - 2x - 2 = 0$
$(3x - 2)(x + 1) = 0$
$x = -1, \frac{2}{3}$
II. $12y^2 + 7y + 1 = 0$
$12y^2 + 3y + 4y + 1 = 0$
$3y(4y + 1) + 1(4y + 1) = 0$
$(3y + 1)(4y + 1) = 0$
$y = \frac{-1}{3}, \frac{-1}{4}$
⇒ No relation can be established between x and y

S84. Ans.(d)
Sol. I. $x^2 + 13x + 42 = 0$
$x^2 + 7x + 6x + 42 = 0$
$x(x + 7) + 6(x + 7) = 0$
$(x + 7)(x + 6) = 0$
⇒ x = - 7, -6
II. $y^2 + 8y + 12 = 0$
$y^2 + 6y + 2y + 12 = 0$
$y(y + 6) + 2(y + 6) = 0$
$(y + 6)(y + 2) = 0$
⇒ y = -6, -2
So, y ≥ x.

S85. Ans.(e)

Sol. I. $1 = \frac{1}{x}\left(2 - \frac{11}{36x}\right)$

$1 = \frac{2}{x} - \frac{11}{36x^2}$

$1 = \frac{72x - 11}{36x^2}$

$36x^2 = 72x - 11$

$36x^2 - 72x + 11 = 0$

$36x^2 - 66x - 6x + 11 = 0$

$6x(6x - 11) - 1(6x - 11) = 0$

$(6x - 11)(6x - 1) = 0$

$\Rightarrow x = \frac{11}{6}, \frac{1}{6}$

II. $\left(\frac{14y}{3} + \frac{9}{y}\right) = 13$

$\frac{14y^2 + 27}{3y} = 13$

$14y^2 + 27 = 39y$

$14y^2 - 39y + 27 = 0$

$14y^2 - 21y - 18y + 27 = 0$

$7y(2y - 3) - 9(2y - 3) = 0$

$(2y - 3)(7y - 9) = 0$

$\Rightarrow y = \frac{3}{2}, \frac{9}{7}$

So, no relation can be established between x and y.

S86. Ans.(a)

Sol. I. $2x^2 - 31x + 84 = 0$

$2x^2 - 24x - 7x + 84 = 0$

$2x(x - 12) - 7(x - 12) = 0$

$(x - 12)(2x - 7) = 0$

$x = 12, \frac{7}{2}$

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

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

$3y(y + 1) - 2(y + 1) = 0$

$(y + 1)(3y - 2) = 0$

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

x>y

S87. Ans.(b)

Sol. I. $x^2 - 30x + 216 = 0$

$x^2 - 12x - 18x + 216 = 0$

$x(x - 12) - 18(x - 12) = 0$

$(x - 18)(x - 12) = 0$

$x = 18, 12$

II. $y^2 - 21y + 108 = 0$

$y^2 - 12y - 9y + 108 = 0$

$y(y - 12) - 9(y - 12) = 0$

$(y - 9)(y - 12) = 0$

$y = 9, 12$

$x \geq y$

S88. Ans.(d)
Sol. I. x² – 3x – 5x + 15 = 0
x (x – 3) – 5 (x – 3) = 0
x = 5, 3
II. y² – 5y – 6y + 30 = 0
y (y – 5) – 6 (y – 5) = 0
y = 5, 6
x ≤ y

S89. Ans.(c)
Sol. I. $3x^2 - 13x + 14 = 0$
$3x^2 - 7x - 6x + 14 = 0$
$x(3x - 7) - 2(3x - 7) = 0$
$x = 2, \frac{7}{3}$

II. $2y^2 - 17y + 33 = 0$
$2y^2 - 11y - 6y + 33 = 0$
$y(2y - 11) - 3(2y - 11) = 0$
$y = 3, \frac{11}{2}$

$y > x$

S90. Ans.(c)
Sol.
I. x² + 11x + 28 = 0
x²+7x+4x+28 = 0
x(x+7)+4(x+7) =0
(x+7) (x+4) = 0
x = -7 or -4
II. y² – 22y + 105 = 0
y² -15y-7y+105 = 0
y(y-15)-7(y-15) =0
(y-15) (y-7) = 0
y = 15 or 7
$y > x$

S91. Ans.(e)
Sol. I. $12x^2 + 10x - 8 = 0$
$12x^2 + 16x - 6x - 8 = 0$
$4x(3x + 4) - 2(3x + 4) = 0$
$(4x - 2)(3x + 4) = 0$
$x = \frac{2}{4} = \frac{1}{2}, -\frac{4}{3}$
II. $16y^2 + 7y - 9 = 0$
$16y^2 + 16y - 9y - 9 = 0$
$16y(y + 1) - 9(y + 1) = 0$
$(16y - 9)(y + 1) = 0$
$y = \frac{9}{16}, -1$
So, no relation can be established between x and y.

S92. Ans.(e)
Sol. I. $2x^2 + 7x + 5 = 0$
$2x^2 + 2x + 5x + 5 = 0$
$2x(x + 1) + 5(x + 1) = 0$
$(2x + 5)(x + 1) = 0$
$x = -\frac{5}{2}, -1$

II. $y^2 + y - 210 = 0$

$y^2 + 15y - 14y - 210 = 0$

$y(y + 15) - 14(y + 15) = 0$

$(y - 14)(y + 15) = 0$

$y = 14, -15$

So, no relation can be established between x and y.

S93. Ans.(c)

Sol. I. $8x^2 + 10x - 7 = 0$

$8x^2 - 4x + 14x - 7 = 0$

$4x(2x - 1) + 7(2x - 1) = 0$

$(2x - 1)(4x + 7) = 0$

$x = \frac{1}{2}, \frac{-7}{4}$

II. $y^2 - 6y + 8 = 0$

$y^2 - 4y - 2y + 8 = 0$

$y(y - 4) - 2(y - 4) = 0$

$(y - 4)(y - 2) = 0$

$y = 4, 2$

so, $x < y$

S94. Ans.(b)

Sol. I. $x^2 + 11x + 30 = 0$

$x^2 + 5x + 6x + 30 = 0$

$x(x + 5) + 6(x + 5) = 0$

$(x + 6)(x + 5) = 0$

$x = -5, -6$

II. $y^2 + 16y + 60 = 0$

$y^2 + 6y + 10y + 60 = 0$

$y(y + 6) + 10(y + 6) = 0$

$(y + 6)(y + 10) = 0$

$y = -10, -6$

so, x≥y

S95. Ans.(e)

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

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

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

$x = +3, +4$

II. $y^2 + 2y - 63 = 0$

III. $y^2 + 9y - 7y - 63 = 0$

IV. $y(y + 9) - 7(y + 9) = 0$

V. $y = +7, -9$

$So, relation\ can't be\ established.$

S96. Ans.(c)

Sol. I. $x^2 + 6x + 3x + 18 = 0$

$x(x + 6) + 3(x + 6) = 0$

$(x + 6)(x + 3) = 0$

$x = -6, -3$

II. $12y^2 + 10y + 6y + 5 = 0$

$2y(6y + 5) + 1(6y + 5) = 0$

$(6y + 5)(2y + 1) = 0$

$y = -\frac{5}{6}, -\frac{1}{2}$

So, x<y

S97. Ans.(e)
Sol. I. $x^2 = 16$
$x = \pm4$
II. $y^2 - 6y - 4y + 24 = 0$
$y(y - 6) - 4(y - 6) = 0$
$(y - 6)(y - 4) = 0$
$y = 6$ and 4
So, $x \le y$

S98. Ans.(a)
Sol. I. $12x^2 - 8x - 3x + 2 = 0$
$4x(3x - 2) - 1(3x - 2) = 0$
$(4x-1)(3x-2) = 0$
$x = \frac{1}{4}, \frac{2}{3}$
II. $6y^2 - 3y - 2y + 1 = 0$
$3y(2y - 1) - 1(2y - 1) = 0$
$(3y - 1)(2y - 1) = 0$
$y = \frac{1}{3}, \frac{1}{2}$
So, no relation can be established between x & y.

S99. Ans.(a)
Sol. I. $6x^2 + 6x + 5x + 5 = 0$
$6x(x + 1) + 5(x + 1) = 0$
$(6x + 5)(x + 1) = 0$
$x = -\frac{5}{6}, -1$
II. $7y^2 + 7y + 4y + 4 = 0$
$7y(y + 1) + 4(y + 1) = 0$
$(7y + 4)(y + 1) = 0$
$y = -\frac{4}{7}, -1$
So, no relation can be established between x & y.

S100. Ans.(e)
Sol. I. $6x^2 + 6x + 4x + 4 = 0$
$6x(x + 1) + 4(x + 1) = 0$
$(6x+4)(x+1) = 0$
$x = -1, -\frac{2}{3}$
II. $6y^2 + 3y + 4y + 2 = 0$
$3y(2y + 1) + 2(2y + 1) = 0$
$(2y+1)(3y+2) = 0$
$y = -\frac{1}{2}, -\frac{2}{3}$
So, $x \le y$