Quiz Date: 19th September 2020

Directions (1-5): In the following questions, two equations in x and y are given. Solve these equations and give answer

Q1.
  I. $x^2 + 7x + 12 = 0$
  II. $4y^2 = 36$
(a) if x > y
(b) if x < y
(c) if x ≥ y
(d) if x ≤ y
(e) x = y or relation cannot be established between x and y

Q2.
  I. $2x^2 + 5x + 3 = 0$
  II. $y^2 + 3x + 2 = 0$
(a) if x > y
(b) if x < y
(c) if x ≥ y
(d) if x ≤ y
(e) x = y or relation cannot be established between x and y

Q3.
  I. $2x + 3y = 5$
  II. $3x + 2y = 10$
(a) if x > y
(b) if x < y
(c) if x ≥ y
(d) if x ≤ y
(e) x = y or relation cannot be established between x and y

Q4.
  I. $x^2 + 19x + 84 = 0$
  II. $y^2 + 14y + 49 = 0$
(a) if x > y
(b) if x < y
(c) if x ≥ y
(d) if x ≤ y
(e) x = y or relation cannot be established between x and y

Q5.
  I. $3x^2 + 4x + 1 = 0$
  II. $2y^2 + 3y + 1 = 0$
(a) if x > y
(b) if x < y
(c) if x ≥ y
(d) if x ≤ y

(e) x = y or relation cannot be established between x and y

Directions (6 – 15) : In each of these questions two equations numbered I & II are given. You have to solve both the equations and give answer.
(a) If x < y
(b) If x > y
(c) If relationship between a and b cannot be established
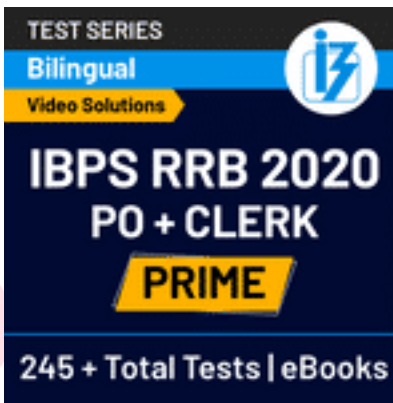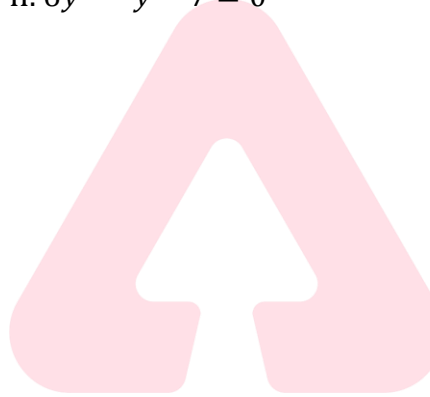(d) If x ≥ y
(e) If x ≤ y

Q6. I. $x^2 + 3x = 28$
II. $y^2 + 16y + 63 = 0$

Q7. I. $x = \sqrt[3]{2744}$
II. $y^2 = 441$

Q8. I. $8x^2 - 49x + 45 = 0$
II. $6y^2 - y - 7 = 0$

Q9. I. $42x - 17y = -67$
II. $7x + 12y = -26$

Q10. I. $x^2 - 8x + 15 = 0$
II. $2y^2 - 21y + 55 = 0$

Q11. I. $x^2 + 9x - 22 = 0$
II. $2y^2 - 7y + 6 = 0$

Q12. I. $2y^2 - 13y - 34 = 0$
II. $3x^2 - 11x - 20 = 0$

Q13. I. $x^4 = 256$
II. $y^2 - 16y + 64 = 0$

Q14.   I. $(x - 4)^2 = 9$
II. $(2y + 3)^2 = 25$

Q15. I. $2x + 3y = 4$
II. $4x + 5y = 6$

Solutions

S1. Ans.(d)
Sol.
I. $x^2 + 7x + 12 = 0$
$\Rightarrow x = -3, -4$
II. $y^2 = 9$
$\Rightarrow y = \pm 3$
$y \geq x$

S2. Ans.(e)
Sol.
I. $2x^2 + 5x + 3 = 0$
$\Rightarrow 2x^2 + 2x + 3x + 3 = 0$
$\Rightarrow (x + 1)(2x + 3) = 0$
$\Rightarrow x = -1, -\frac{3}{2}$
II. $y^2 + 3y + 2 = 0$
$\Rightarrow (y + 1)(y + 2) = 0$
$\Rightarrow y = -1, -2$
No relation

S3. Ans.(a)
Sol.
$(2x + 3y = 5)\ 2$
$(3x + 2y = 10)\ 3$
On subtracting, we get
$-5x = -20$
$\Rightarrow x = 4$
$\therefore y = \frac{5-8}{3}$
$= -1$
$x > y$

S4. Ans.(d)
Sol.

I. $x^2 + 19x + 84 = 0$
$\Rightarrow (x + 7)(x + 12) = 0$
$\Rightarrow x = -7, -12$
II. $y^2 + 14y + 49 = 0$
$\Rightarrow (y + 7)^2 = 0$
$\Rightarrow y = -7$
$y \geq x$

S5. Ans.(e)
Sol.
I. $3x^2 + 4x + 1 = 0$
$\Rightarrow 3x^2 + 3x + x + 1 = 0$
$\Rightarrow (x + 1)(3x + 1) = 0$
$\Rightarrow x = -1, -\frac{1}{3}$
II. $2y^2 + 3y + 1 = 0$
$\Rightarrow 2y^2 + 2y + y + 1 = 0$
$\Rightarrow (y + 1)(2y + 1) = 0$
$\Rightarrow y = -1, -\frac{1}{2}$
No relation

S6. Ans. (d)
Sol.
I. $x^2 + 3x - 28 = 0$
$x^2 + 7x - 4x - 28 = 0$
$x(x + 7) - 4(x + 7) = 0$
$(x + 7)(x - 4) = 0$
$x = -7, 4$

II. $y^2 + 16y + 63 = 0$
$y^2 + 7y + 9y + 63 = 0$
$y(y + 7) + 9(y + 7) = 0$
$(y + 7)(y + 9) = 0$
$y = -7, -9$

So, $x \geq y$

S7. Ans. (c)
Sol.
I. $x = \sqrt[3]{2744}$
$x = 14$

II. $y^2 = 441$
$y = \pm 21$
So, no relation

S8. Ans. (c)
Sol.
I. $8x^2 - 49x + 45 = 0$
$8x^2 - 40x - 9x + 45 = 0$
$8x(x - 5) - 9(x - 5) = 0$
$(x - 5)(8x - 9) = 0$
$x = 5, \dfrac{9}{8}$

II. $6y^2 - y - 7 = 0$
$6y^2 6y - 7y - 7 = 0$
$6y(y + 1) - 7(y + 1) = 0$
$(6y - 7)(y + 1) = 0$
$y = \dfrac{7}{6}, -1$
So, no relation

S9. Ans. (a)
Sol.
Multiply II by 6 and equate with I
$42x - 17y + 67 = 42x + 72y + 156$
$89y = -89$
$y = -1$
And $x = -2$
So, y > x.

S10. Ans. (e)
Sol.
I. $x^2 - 8x + 15 = 0$
$x^2 - 5x - 3x + 15 = 0$
$x(x - 5) - 3(x - 5) = 0$
$(x - 5)(x - 3) = 0$
$x = 3, 5$

II. $2y^2 - 21y + 55 = 0$

$2y^2 - 10y - 11y + 55 = 0$
$2y(y - 5) - 11(y - 5) = 0$
$(y - 5)(2y - 11) = 0$
$y = 5, \dfrac{11}{2}$
So, $y \geq x$

S11. Ans.(c)
Sol.
I. $x^2 + 9x - 22 = 0$
$\Rightarrow x^2 + 11x - 2x - 22 = 0$
$\Rightarrow (x + 11)(x - 2) = 0$
$\Rightarrow x = -11, 2$
II. $2y^2 - 7y + 6 = 0$
$\Rightarrow 2y^2 - 4y - 3y + 6 = 0$
$\Rightarrow 2y(y-2) - 3(y-2) = 0$
$\Rightarrow (y-2)(2y-3) = 0$
$\Rightarrow y = 2, \dfrac{3}{2}$
No relation

S12. Ans.(c)
Sol.
I. $2y^2 - 13y - 34 = 0$
$\Rightarrow 2y^2 - 17y + 4y - 34 = 0$
$\Rightarrow y(2y-17) + 2(2y-17) = 0$
$\Rightarrow (2y-17)(y+2) = 0$
$\Rightarrow y = \dfrac{17}{2}, -2$
II. $3x^2 - 11x - 20 = 0$
$\Rightarrow 3x^2 - 15x + 4x - 20 = 0$
$\Rightarrow 3x(x-5) + 4(x-5) = 0$
$\Rightarrow (x - 5)(3x + 4) = 0$
$\Rightarrow x = 5, \dfrac{-4}{3}$
No relation

S13. Ans.(a)
Sol.
I. $x^4 = 256$
$\Rightarrow x = \pm 4$
II. $y^2 - 16y + 64 = 0$
$\Rightarrow (y - 8)^2 = 0$
$\Rightarrow y = 8$
$y > x$

S14. Ans.(d)
Sol.

I. $(x-4)^2 = 9$
$\Rightarrow x - 4 = \pm 3$
$\Rightarrow x = 7, 1$
II. $(2y+3)^2 = 25$
$\Rightarrow 2y + 3 = \pm 5$
$\Rightarrow y = 1, -4$
$\Rightarrow x \geq y$

S15. Ans.(a)
Sol.
 I. 2x + 3y = 4
II. 4x + 5y = 6
Solving eq. (I) and (II),
(2x + 3y = 4) × 2
4x + 5y = 6
 y = 2
Put y = 2 in eq. (I),
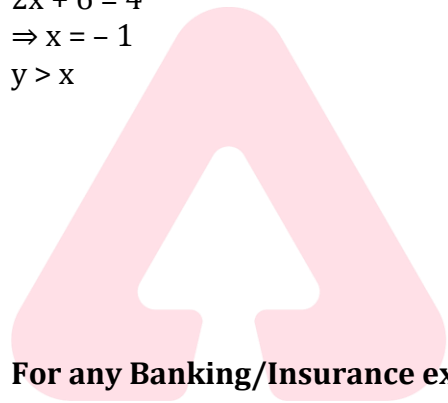2x + 6 = 4
$\Rightarrow$ x = – 1
y > x

For any Banking/Insurance exam Assistance, Give a Missed call @ 01141183264