IBPS Guide
Complete Guide for Bank Exam & SSC Exams

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500 Quadratic Equation Questions for IBPS RRB/PO/Clerk 2017

eBook

Direction (Q. 1-5): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x'and 'y'and give answer .

a) If x < y

b) If x ≥ y

a) If x > y

d) If x = y or no relation can be decided between 'x'and 'y'.

e) If x ≤ y

1). I. $2x^2 - 15x + 28 = 0$
II. $4y^2 - 23y + 30 = 0$

2). I. $2x^2 - 15x + 27 = 0$
II. $5y^2 - 26y + 33 = 0$

3). I. $6x^2 + 25x + 24 = 0$
II. $12y^2 + 13y + 3 = 0$

4). I. $12x^2 - x - 1 = 0$
II. $20y^2 - 41y + 20 = 0$

5). I. $10x^2 + 33x + 27 = 0$
II. $5y^2 + 19y + 18 = 0$

Direction (Q. 6-10): Two equations (I) and (II) are given in each question. On the basis of these equations. You have to decide the relation between 'x'and 'y'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 decided between 'x'and 'y'.

6). I. $x = (-7)^2$
II. $y^2 - 46y - 147 = 0$

7). I. $4x^2 - x - 3 = 0$
II. $4y^2 - 16y + 15 = 0$

8). I. $2x^2 - 117x + 1701 = 0$
II. $y^2 = 992.25$

9). I. $12x^2 - 41x + 35 = 0$
II. $3y^2 - 17y - 28 = 0$

10). I. $4x - 3y = 16$
II. $7x - 8y = 17$

1). D)
 I. $2x^2 - 15x + 28 = 0$
or, $2x^2 - 7x - 8x + 28 = 0$
or, x (2x -7) - 4 (2x - 7) = 0
or, (2x - 7) (x - 4) = 0
x = 7/2 = 3.5, x = 4
II. $4y^2 - 23y + 30 = 0$
or, $4y^2 - 15y - 8y + 30 = 0$
or, y (4y - 15) -2 (4y - 15) = 0
or, (4y - 15) (y - 2) = 0
y = 15/4 = 3.8, y= 2
Hence x = y or no relationship can be established.

2). B)
 I. $2x^2 - 15x + 27 = 0$
or, $2x^2 - 9x - 6x + 27 = 0$
or, x (2x -9) - 3 (2x - 9) = 0
or, (2x - 9) (x - 3) = 0
x = 9/2 = 4.5, x = 3
II. $5y^2 - 26y + 33 = 0$
or, $5y^2 - 15y - 11y + 33 = 0$
or, 5y (y - 3) -11 (y - 3) = 0
or, (5y - 11) (y - 3) = 0
y = 11/5 = 2.2, y= 3
Hence x ≥ y

3). A)
 I. $6x^2 + 25x + 24 = 0$
or, $6x^2 + 9x + 16x + 24 = 0$
or, 3x (2x +3) + 8 (2x + 3) = 0
or, (2x + 3) (3x + 8) = 0
x = - 3/2 = - 1.5, x = - 8/3 = - 2.6
II. $12y^2 + 13y + 3 = 0$
or, $12y^2 + 9y +4y + 3 = 0$

or, 3y (4y +3) +1 (4y + 3) = 0
or, (3y +1) (4y + 3) = 0
y = - 1/3 = -0.9, y= - 3/4 = -0.75
Hence x < y

4). A)

 I. $12x^2 - x - 1 = 0$

or, $12x^2 -4x + 3x -1 = 0$
or, 4x (3x -1) + 1 (3x-1) = 0
or, (4x + 1) (3x - 1) = 0
x = - 1/4 = - 0.25, x = 1/3 = 0.3
II. $20y^2 - 41y + 20 = 0$
or, $20y^2 - 16y -25y + 20 = 0$
or, 4y (5y -4) -5 (5y-3) = 0
or, (5y - 4) (4y - 5) = 0
y = 4/5 = 0.8, y= 5/4 = 1.25
Hence x < y

5). B)

 I. $10x^2 + 33x + 27 = 0$
or, $10x^2 +15x + 18x +27 = 0$
or, 5x (2x +3) + 9 (2x + 3) = 0
or, (5x + 9) (2x +3) = 0
x = - 9/5 = - 1.8, x = 3/2 = -1.5
II. $5y^2 + 19y + 18 = 0$
or, $5y^2 + 10y +9y + 18 = 0$
or, 5y (y + 2) +9 (y + 2) = 0
or, (5y + 9) (y +2) = 0
y = - 9/5 = 0.8, y= - 2

Hence x ≥ y

6). C) $x = (-7)^2$
x = 49
$= y^2 - 46y - 147 = 0$
$y^2 - 49y + 3y - 147 = 0,$
= y (y-49) + 3 (y - 49) = 0
(y - 49) (y + 3) = 0 □ y = 49, -3
x ≥ y

7). B) $4 x^2 - x - 3 = 0$
$= 4x^2 - 4x +3x - 3 = 0$
= 4 x (x - 1) + 3 (x - 1) = 0
= (4x + 3) (x - 1) = 0
x = 3/4, 1

$4y^2 - 16y + 15 = 0$

$4y^2 - 10y - 6y + 15 = 0$

$2y (2y - 5) -3 (2y - 5) = 0$

$(2y - 3) (2y - 5) = 0$

$y = 3/2, 5/2$

$x < y$

8). D) $2x^2 - 117x + 1701$

$= 2x^2 - 54x - 63x + 1701$

$= 2x (x - 27) -63 (x - 27)$

$= (2x - 63) (x - 27) = 0$

$x = 27, 63/2$

$y = \sqrt{(992.25)}$

$y = 31.5$

$x \leq y$

9). E) $12x^2 - 41x + 35 = 0$

$= 12x^2 - 20x - 21x + 35 = 0,$

$= 4x (3x - 5) - 7 (3x - 5) = 0,$

$= (4x - 7) (3x -5) = 0,$

$x = 7/4, 5/3$

$3y^2 - 17y - 28 = 0$

$3y^2 - 21y +4y - 28= 0$

$3y (y - 7) + 4 (y - 7) = 0$

$(y -7) (3y + 4) = 0$

$y = 7, -4/3$

ie. no relation between 'x'and 'y'.

10). A) Equ^n (I) $\times$ 7 - Equ^n (II) $\times$ 4

$(28x - 21y = 112) - (28x - 32y = 68)$

$11y = 44$

$y = 4,\&$ from this $x = 7$

$x > y$

Directions (Q. 11-15): For the two given equations I and II.
Give answer:
a) If p is greater than q.
b) If p is smaller than q.
c) If p is equal to q.
d)If p is either equal to or greater than q.
e) If p is either equal to or smaller than q.
11) I. $6p^2+5p+1=0$
II. $20q^2+9q=-1$

12) I. $3p^2+2p-1=0$
II. $2q^2+7q+6=0$

13) I. $3p^2+15p=-18$
II. $q^2+7q+12=0$

14) I. $p=\sqrt{4}/\sqrt{9}$
II. $9q^2-12q+4=0$

15) I. $p^2+13p+42=0$
II. $q^2=36$

Directions (Q. 16-20): In each question two ego numbered I and II are given. You have to solve both equations and mark the appropriate 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.

16). I. $9x^2 - 41x+46=0$
II. $12y^2 + 43y+ 38 = 0$

17). I. $6x^2 + 13x - 169 =0$
II. $y^2 + 8y - 65 = 0$

18). I. $3x + 5y = 4$
II. $6x - 7y= 25$

19). I. $x^2 - 5x + 4 = 0$
II. $y^2 + 11y - 12 = 0$

20). I. $8x^2 + 50x + 57 = 0$
II. $6y^2 - y - 57 = 0$

11).B)
I. $6p^2+5p+1=0$
$(3p+1)(2p+1)=0$
$p=-1/3,-1/2$
II. $20q^2+9q+1=0$
$(4q+1)(5q+1)=0$
$q=-1/4,-1/5$
∴p<q

12). A)
I. $3p^2+2p-1=0$
$(3p-1)(p+1)=0$
$p=1/3,-1$

II. $2q^2+7q+6=0$
$(2q+3)(q+2)=0$
q=-3/2,-2

13). D)
I. $3p^2+15p+18=0$
$(3p+6)(p+3)=0$
p=-2,-3
II. $q^2+7q+12=0$
$(q+4)(q+3)=0$
q=-3,-4
∴p≥q

14). C)
I. p=$\sqrt{4}/\sqrt{9}$=2/3
II. $9q^2-12q+4=0$
$(3q-2)^2=0$
q=2/3
∴p=q

15). E)
$p^2+13p+42=0$
$(p+7)(p+6)=0$
p=-6,-7
II. $q^2=36$
q=± 6
∴p≤q

16). I $9x2 - 41x + 46 = 0$
or, $9x^2 - 18x - 23x + 46 = 0$
or, $9x(x — 2) - 23(x - 2) = 0$
or, $(9x - 23) (x - 2) =0$
x = 23/9, 2
II. $12y^2 - 43y + 38 =0$
or, $12y^2 + 24y + 19y + 38 = 0$
or, $12y(y + 2) + 19(y + 2) = 0$
or, $(12y + 19) (y+ 2) = 0$
y = 19/12, -2
Therefore x > y
Answer: a)

17). I.$6x^2 + I3x - 169 = 0$
or, $6x^2 - 26x + 39x - 169 =0$

or, $2x(3x - 13) + 13(3x - 13) = 0$

or, $(2x + 13)(3x - 13) = 0$

$x = -13/2, 13/3$

II. $y^2 + 8y - 65 = 0$

or, $y^2 + 13y - 5y - 65 = 0$

or, $y(y + 13) - 5(y + 13) = 0$

or, $(y - 5)(y + 13) = 0.$

$y = 5, -13$

Therefore relation can't be established between x and y

Answer: e)

18). I. $3x + 5y = 4$

II. $6x - 7y = 25$

Solving equation (I) and (ii), we get

$\quad 6x + 10y = 8$

$\quad 6x - 7y = 25$

$$17y = -17$$

$y = -1$ and $x = 3$, Therefore $x > y$

Answer: a)

19). I. $x^2 - 5x + 4 = 0$

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

or, $x(x - 4) - 1(x - 4) = 0$

or, $(x - 1)(x - 4) = 0$

$x = 1, 4$

II. $y^2 + 11y - 12 = 0$

or, $y^2 + 12y - y - 12 = 0$

or, $y(y + 12) - 1(y + 12) = 0$ or, $(y - 1)(y + 12) = 0$

$y = 1, -12$

Therefore, $x \geq y$

Answer: b)

20). I $8x^2 + 50x + 57 = 0$

or, $8x^2 + 12x + 38x + 57 = 0$

or, $4x(2x + 3) + 19(2x + 3) = 0$

or, $(4x + 19)(2x + 3) = 0$

$\quad x = -19/4, -3/2$

II. $6y^2 - y - 57 = 0$

or, $6y2 + 18y - 19y - 57 = 0$

or, $6y(y + 3) - 19(y + 3) = 0$

or, $(6y - 19)(y + 3) = 0$

$y = 19/6, -3$

Therefore relation can't be established.

Directions (Q. 21-25): In the following questions numbered I and II are given. You have to solve out 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 the relationship cannot be established

21). I. $4x^2 + 27x + 35 = 0$
 II. $3y^2 - 23y + 42 = 0$

22). I. $9x^2 + 15x - 14 = 0$
II. $7y^2 - 23y + 16 = 0$

23). I. $x^2 = 1156$
II. $y = \sqrt[3]{(35937)}$

24). I. $2x - 3y = 43$
II. $3x + 4y = -12$

25). I. $5x^2 - 44x + 63 = 0$
II. $10y^2 + 23y + 12 = 0$

Directions (Q. 26-30): Two equations (I) and (II) are given in each questions. On the basis of these questions, you have to decide the relation between x and y 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.

26). I. $5x^2 - 87x + 378 = 0$
II. $3y^2 - 49y + 200 = 0$

27). I. $10x^2 - x - 24 = 0$
II. $y^2 - 2y = 0$

28). I. $x^2 - 5x + 6 = 0$
II. $2y^2 - 15y + 27 = 0$

29). I. $3x + 2y = 301$
II. $7x - 5y = 74$

30). I. $14x^2 - 37x + 24 = 0$

II. $28y^2 - 53y + 24 = 0$

21). C)
I. $4x^2 + 27x + 35 = 0$
x = +(20/4), +(7/4)
x = -5, -(7/4)
II. $3y^2 - 23y + 42 = 0$
y = -(14/3), -(9/3)
y = (14/3), 3
hence x < y.

22). C)
I. $9x^2 + 15x - 14 = 0$
x = +(21/9), -(6/9)
x = -(7/3), +(2/3)
II. $7y^2 - 23y + 16 = 0$

y = -(16/7), -(7/7)
y = (16/7), 1
hence x < y.

23). E) I. $x^2 = \sqrt{1156}$

x = 1156 = $\pm$ 34

II. y = $\sqrt[3]{35937}$ = 33

Hence no relation can be established.

24). A) 2x - 3y = 43 ..(i)

3x + 4y = -12 $\cdots$(ii)

Solving equation (i) $\times$ 3 − (ii) $\times$ 2

(6x − 9y = 129) − (6x + 8y = -24) = -17y = 153

Y = -(153/7) = -9
Putting the value of y in equation (i), we get
2x − 3(-9) = 43

Or, 2x + 27 = 43
X = (43-27) / 2 = 16/2 = 8
Hence x > y

25).A) I. $5x^2 - 44x + 63 = 0$
x = -(35/5), -(9/5)
x = 7, (9/5)
II. $10y^2 + 23y + 12 = 0$
y = (15/10), (8/10)
y = -(3/2), -(4/5)

hence x > y.

26). I. $5x^2 - 45x - 42x + 378 = 0$
or,$5x(x - 9) - 42(x- 9) = 0$
or. $(5x - 42)(x -9) = 0$
x = 9, 42/5
II. $3y^2 - 24y - 25y + 200=0$
or, $3y(y - 8) -25(y - 8) = 0$ or, $(y - 8)(3y-25)=0$
y = 8, 25/3
Hence, x>y
Answer: a)

27). I. $10x^2 -16x + 15x - 24 = 0$
or, $2x(5x -8) + 3(5x 8)=0$
or,$(2x + 3)(5x +8) = 0$
x = -3/2, 8/5
II. $y^2 - 2y = 0$
or, $y(y -2) = 0$
y = 0, 2
ie no relationship exists between x and y.
Answer: e)

28). $x^2 - 2x - 3x + 6 =0$
or, $x(x -2) - 3(x -2) = 0$
or, $(x -2) (x -3) = 0$
x =2, 3
$2y^2 - 6y - 9y + 27 = 0$
or, $2y(y - 3)-9(y -3) = 0$
or, $(y- 3) (2y -9) = 0$
y = 3, 9/2
hence, x ≤ y

Answer: d)

29). I. eqn (I) × 5 + eqn (II) × 2
$[15x + 10y = 1505] + [14x - 10y = 148] = 29x = 1653$
x = (1653/29) = 57
and y = 65
hence, x< y
Answer: b)

30). $14x^2 - 37x + 24 = 0$
or, $I4x^2 - 21x- 16x + 24 = 0$
or, $7x(2x -3) -8(2x -3) = 0$

or, (2x - 3)(7x - 8) = 0

x = (3/2), (8/7)

II. $28y^2 - 53y + 24 = 0$

or, $28y^2 - 21y - 32y + 24 = 0$

or, 7y(4y - 3) -8(4y - 3) = 0

or, (7y - 8) (4y - 3) = 0

y = 8/7, 3/4

x ≥ y

Answer: c)

Directions (Q. 31-35): In each of these questions, two equations (I) and (II) are given. 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'.

31).

I. x - 7 $\sqrt{}$ 3x + 36 = 0

II. y -12 $\sqrt{}$ 2y + 70 = 0

32).

I. 10x + 6y = 13

II. 45x + 24y = 56

33).

I. 63x -194 $\sqrt{}$ x +143 = 0

II. 99y - 255 $\sqrt{}$ y +150 = 0

34).

I. $16x^2 - 40x - 39 = 0$

II. $12y^2 - 113y + 255 = 0$

35).

I. $x^2 - 7 \sqrt{} 7x + 84 = 0$

II. $y^2 - 5 \sqrt{} 5y + 30 = 0$

Directions (Q. 36-40) In the following questions, two equations I and II are given. You have to solve both the equations.
Give Answer
a)If x > y
b)If x > = y
c)If x < y
d)If x < = y

e)If x = y or the relation cannot be established

36). I. $(25 / x^2) - (12 / x) + (9 / x^2) = (4 / x^2)$

II. $9.84 - 2.64 = 0.95 + y^2$

37). I. $\sqrt{(900)}x + \sqrt{(1296)} = 0$

II. $(256)^{1/4} y + (216)^{1/3} = 0$

38). I. $[(3)^5 + (7)^3 / 3] = x^3$

II. $7y^3 = - (15 \times 2) + 17y^3$

39). I. $(x^{1/4} / 16)^2 = 144 / x^{3/2}$

II. $y^{1/3} \times y^{2/3} \times 3014 = 16 \times y^2$

40). I. $3x^2 - 19x + 28 = 0$

II. $5y^2 - 18y + 16 = 0$

31). I. $x - 7 \sqrt{3}x + 36 = 0$

or $x - 7 \sqrt{3}. \sqrt{x} + 36 = 0$

or $x - 3 \sqrt{3}. \sqrt{x} - 4 \sqrt{3}. \sqrt{x} + 36 = 0$

or $(\sqrt{x} - 3 \sqrt{3})(\sqrt{x} - 4\sqrt{3}) = 0$

x = 27, 48

II. $y - 5 \sqrt{2}y - 7 \sqrt{2}y + 70 = 0$

or $y - 5 \sqrt{2}. \sqrt{y} - 7 \sqrt{2}. \sqrt{y} + 70 = 0$

or $(y - 5\ 2)(y - 7\ 2) = 0$

y = 50, 98

x < y

Answer: b)

32). I. $10x + 6y = 13$

II. $45x + 24y = 56$

On solving both equations,

x = 4/5, y = 5/6

Answer: b)

33). I. $63x - 194 \sqrt{x} + 143 = 0$

or $63x - 117 \sqrt{x} - 77\sqrt{x} + 143 = 0$

or $(7 \sqrt{x} - 13)(9 \sqrt{x} - 11) = 0$

x = 169/49, 121/81

II. $99y - 225 \sqrt{y} + 150 = 0$

or $99y - 90 \sqrt{y} - 165 \sqrt{y} + 150 = 0$

or (11 $\sqrt{y}$ -10)(9$\sqrt{y}$ -15) = 0

y = 100/121, 225/81

Therefore relation cannot be established between x and y.

Answer: e)

34). I. 16x^2 - 40x - 39 = 0

or 16x^2 - 52x + 12x - 39 = 0

or (4x- 13) (4x + 3)

x = 13/4, -3/4

II. 12y^2 - 113y + 255 = 0

or 12y^2 - 45y - 68y + 255 = 0

or (4y - 15) (3y - 17) = 0

y = 15/4, 17/3

Therefore y > x or, x < y

Answer: b)

35). I. x^2 - 7 $\sqrt{7}$x + 84 = 0

or (x - 4 $\sqrt{7}$)(x - 3$\sqrt{7}$) = 0

x = 4 $\sqrt{7}$, 3 $\sqrt{7}$

II. y^2 - 5 $\sqrt{5}$y + 30 = 0

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

 y = 2 $\sqrt{5}$, 3 $\sqrt{5}$

x > y

Answer: a)

36). I. $(25/x^2) + (9/x^2) - (4/x^2) = (12/x)$

$(25 + 9 - 4) / x^2 = 12/x = 30/x^2 = 12/x$

12x = 30

x = 30 / 12 = 5/2 = 2.5

II. $9.84 - 2.64 = 0.95 + y^2$

$7.2 - 0.95 = y^2$

$y = \sqrt{(6.25)} = \pm (2.5)$

clearly x $\geq$ y

Answer: b)

37). I. $\sqrt{(900)}$x + $\sqrt{(1296)}$ =0

$\sqrt{(900)}$x = -$\sqrt{(1296)}$

30x = -36

x = -36 / 30 = -1.2

II. $(256)^{1/4} y = (216)^{1/3}$

$(4^4)^{1/4} y = - (6^3)^{1/3} \square 4y = -6$

Y = -(6/4) = -1.5

Clearly, x > y

Answer: a)

38). I. $[(3)^5 + (7)^3] / 3 = x^3$

$(243 + 343) / 3 = x^3$

$(586 / 3) = x^3$

II. $7y^3 = -30 + 17y^3 = 10y^3 = 30$

$y^3 = 30/10 = 3$

clearly, x > y

Answer: a)

39). I. $(x^{1/4} / 16)^2 = (144 / x^{3/2}) = (x^{1/2} / 256) = (144 / x^{3/2})$

$(x^{1/2}) \times (x^{3/2}) = 256 \times 144$

$x^2 = (256 \times 144)$

$x = \sqrt{} (256 \times 144)$

$x = \pm (16 \times 12) = \pm 192$

II. $y^{1/3} \times y^{2/3} \times 3104 = 16y^2$

$y \times 3104 = 16y^2$

$3104 = 16y$

Y = 3104 / 16 = 194

Clearly, x > y

Answer: c)

40). I. $3x^2 - 19x + 28 = 0$

$3x^2 - 12x - 7x + 28 = 0$

$3x (x - 4) - 7 (x - 4) = 0$

$(x - 4) (3x - 7) = 0$

x = 4, 7/3

II. $5y^2 - 18y + 16 = 0$

$5y^2 - 10y - 8y + 16 = 0$

$5y (y - 2) - 8 (y - 2) = 0$

$(y - 2) (5y - 8) = 0$

Y = 2, 8/5

Clearly, x > y

Answer: a)

Directions (Q. 41-50) In the following questions, two equations I and II are given. You have to solve both the equations.

Give Answer

a) If x > y

b)If x >= y

c)If x < y

d)If x < = y

e)If x = y or the relationship cannot be established

41). I. $x^2 - 1200 = 244$

II. $y + 122 = 159$

42). I. $14x - 25 = 59 - 7x$

II. $\sqrt{(y + 222)} - \sqrt{(36)} = \sqrt{(81)}$

43). I. $144x^2 - 16 = 9$

II. $12y + \sqrt{4} = \sqrt{(49)}$

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

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

45). I. $(\sqrt{(x)} / 5) + (3\sqrt{(x)} / 10) = (1 / \sqrt{(x)})$

II. $(10 / \sqrt{(y)}) - (2 / \sqrt{(y)}) = 4\sqrt{(y)}$

Directions (Q. 46-55): Two equations (I) and (II) are given in each question. On the basis of these equations, you have to decide the relation between x and y and give answer

46).I. $2x^2 + x - 1 = 0$

II. $6y^2 - 13y + 5 = 0$

a) x>y

b) x<y

c) x≥y

d) x = y or no relation can be established between 'x'and 'y'.

e) x ≤ y

47).I. $21x^2 - 122x + 165 = 0$

II. $3y^2 - 2y - 33 = 0$

a) x>y

b) x≥y

c) x<y

d) x ≤ y

48). I. $5x^2 - 29x + 36 = 0$

II. $10y^2 - 3y - 27 = 0$

a) x>y

b) x≤y

c) x<y

d) x≥y

49). I. $7x + 4y = 3$

II. $5x + 3y = 3$

a) x>y

b) x<y
c) x≤y
d) x≥y

50). I. 7x^2 - 54x + 99 = 0
II. 4y^2 - 16y + 15 = 0
a) x>y
b) x<y
c) x≥y
d) x≤y

41). I. $x^2 = 1200 + 244$

$x^2 = 1444$

$x = \sqrt{(1444)} = \pm\ 38$

II. $y = 159 - 122 = 37$

Clearly, x > y or x < y
Hence, the relationship cannot be established.
Answer: e)

42). I. $14x + 7x = 59 + 25$

$21x = 84; x = 4$

II. $\sqrt{(y + 222)} = \sqrt{(36)} + \sqrt{(81)}$

$\sqrt{(y + 222)} = \pm\ 6\ \pm 9$

$\sqrt{(y + 222)} = \pm\ 15$

Taking (+ve) sign,

$\sqrt{(y + 222)} = 15$

$y + 222 = 225$

$y = 225 - 222 = 3$

Taking (-ve) sign,

$\sqrt{(y + 222)} = -15$

$(y + 222) = 225$

$Y = 225 - 222 = 3$

Clearly, x > y
Answer: a)

43). I. $144x^2 = 16 + 9$

$144x^2 = 25 = x^2 = 25 / 144$

$x = \pm\ 5 / 12$

II. $12y = \sqrt{49} - \sqrt{4}$

$12y = \pm\ 7 - (\pm\ 2)$

$12y = \pm\ 5$

$y = \pm \ 5 / 12$

clearly, x = y

Answer: e)

44). $x^2 - 9x + 20 = 0$

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

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

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

x = 5 or 4

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

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

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

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

Y = 6 (or) 7

Clearly, x < y

Answer: c)

45). I. $(2\sqrt{\ } x + 3\sqrt{\ } x) / 10 = 1 / \sqrt{\ } x$

2x + 3x = 10

5x = 10

x = 2

II. $(10 - 2) / \sqrt{\ } y = 4 \sqrt{\ } y$

8 = 4y

y = 8 / 4 = 2

Clearly, x = y

Answer: e)

46). D)

2x^2 + 2x - x - 1 = 0

or, 2x(x + 1) - 1(x + 1) = 0

or, (x + 1) (2x - 1) = 0

x = -1 , 1/2

II. 6y^2 - 3y - 10y + 5 = 0

or, 3y(2y - 1) - 5(2y - 1) = 0

or, (3y - 5)(2y - 1) = 0

y = 0.5, 5/3

hence no relationship.

47). D)

I. 21x2 - 45x - 77x + 165 = 0

or, 3x(7x - 15) - 11 (7x - 15) = 0

or, (3x - 11) (7x - 15) = 0

x = 11/3, 15/7

II. 3y2 + 9y - 11y - 33 = 0

or,3y(y + 3) - 11(y + 3) = 0

or,(3y - 11) (y + 3) = 0

y = -3 , 11/3

x ≤ y

48). D

I. 5x^2 - 20x - 9x + 36 = 0

or, 5x(x - 4) - 9(x - 4) = 0

or,(x - 4) (5x - 9) = 0

x = 4 , 9/5

II. 10y^2 + 15y - 18y - 27 = 0

or, 5y(2y + 3) - 9(2y + 3) = 0

or, (2y + 3) (5y - 9) = 0

y = 9/5, - 3/2

x ≥ y

49).B)

eqn (I) × 3 - eqn (II) × 4

21x + 12y = 9

20x + 12y = 12

- - -

----

x = - 3

and y = 6

x<y

50).A)

I. 7x^2 - 21x - 33x + 99 = 0

or, 7x(x - 3) - 33(x - 3) = 0

or, (x - 3) (7x - 33) = 0

x = 3, 33/7

II. 4y^2 - 6y - 10y + 15 = 0

or, 2y(2y - 3) - 5(2y - 3) = 0

or, (2y - 3)(2y - 5) = 0

y = 3/2, 5/2

x>y

51). I. 5x^2 - 87x + 378 = 0

II. 3y^2 - 49y + 200 = 0

a) x>y

b) x<y

c) x≥y

d) x≤y

52). I. 10x^2 - x - 24 = 0
II. Y^2 - 2y = 0
a) x = y or no relation can be established between 'x'and 'y'.
b) x<y
c) x≥y
d) x≤y

53). I. x² + √5x – 10 = 0
II. 2y² + 9√5y + 50 = 0
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

54). I. 3x² – 23x + 40 = 0
II. 3y² – 8y + 4 = 0
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

55). I. 6x² + x – 2 = 0
II. 3y² – 22y + 40 = 0
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

Directions (Q. 56-60) In the following questions, two equations I and II are given. You have to solve both the equations.
Give Answer
a) If x > y
b)If x < y
c)If x ≥ y
d)If x ≤y
e)If x = y or the relationship cannot be established

56. I. 8x+y=10
    II. 4x+2y=13

57 I. (x+3) (y+2)=12
   II. 2xy+4x+5y=11

58. I. (3x-2)/y = (3x+6)/(y+16)
    II.(x+2)/(y+4) = (x+5)/(Y+10)

59. I. x^2+20x+4=50-25x

  II. y^2-10y-24=0

60. I. (x^2-10x+16)/(x^2 -12x +24) = 2/3
   II. y^2-y-20=0

51).A)
I. $5x^2 - 45x - 42x + 378 = 0$
or, $5x(x - 9) - 42(x - 9) = 0$
or, $(5x - 42) (x - 9) = 0$
x = 9 , 8.4
II. $3y^2 - 24y - 25y + 200 = 0$
or, $3y(y - 8) - 25(y - 8) = 0$
or, $(y - 8) (3y - 25) = 0$
y = 8, 8.3
x>y

52). A)
I. $10x^2 - 16x + 15x - 24 = 0$
or, $2x(5x - 8) + 3(5x - 8) = 0$
or, $(2x + 3) (5x - 8) = 0$
x = 1.63, -1.5

II. $y^2 - 2y = 0$
or, $y(y - 2) = 0$
y = 0, 2
ie no relationship exists between x and y

53). C)
$x^2 + √5x – 10 = 0$
$x^2 + 2√5x – √5x – 10 = 0$
Gives x = -2√5, √5
$2y^2 + 9√5y + 50 = 0$
$2y^2 + 4√5y + 5√5y + 50 = 0$
Gives y = -2√5, -5√5/2
Put all values on number line and analyze the relationship
-5√5/2….. -2√5….. √5

54). **A)**
$3x^2 – 23x + 40 = 0$
$3x^2 – 15x – 8x + 40 = 0$
Gives x = 5, 8/3
$3y^2 – 8y + 4 = 0$
$3y^2 – 6y – 2y + 4 = 0$
Gives y = 2/3, 2

Put all values on number line and analyze the relationship
2/3….. 2….. 8/3….. 5

55). **B)**
$6x^2 + x - 2 = 0$
$6x^2 + 4x - 3x - 2 = 0$
Gives x = 1/2, -2/3
$3y^2 - 22y + 40 = 0$
$3y^2 - 12y - 10y + 40 = 0$
Gives y = 10/3, 4
Put all values on number line and analyze the relationship
-2/3…… 1/2…… 10/3….. 4

56) B
 from both equation
x=7/12, y=16/3
y>x

57) E
 xy+3y+2x +6 =12
 2xy+6y+4x=12----(i)
2xy+5y+4x=11 ---- (ii)
From eq. (i) --- (ii)
Y = 1
From eq. (i)
x=1
x = y

58) B
(3x-2)/y = (3x+6)/(y+16)
48x-8y = 32 ---- (i)
(x+2)/(y+4) = (x+5)/(y+10)
y = 2x ---- (i)
From Equation (i) & (ii)
x=1, y=2
y>x

59) E
 From the given Equation
 x=1, -46
& y=-2,/2
x # y

60) E
 From 1st equation

x^2-6x=0

x=0,6

From 2nd equation

(y+4) (y-5)

y=-4,5

x # y

Directions (Q. 61-65) In the following questions, two equations I and II are given. You have to solve both the equations.

Give Answer

a) If x < y

b) If x > y

c) If x ≤ y

d) If x ≥ y

e) If x = y or the relationship cannot be established

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

62. I. 5x^2=19x-12
    II. 5y^2+11y=12

63. I. x^3=(1331)^1/3
    II. 2y^2-21y+55=0

64. I. 5x=7y+21
    II. 11x+4y+109=0

65. I. 2x^2-11x+12=0
    II. 2y^2-17y+36=0

Direction (Q.66-70): In each of these questions two equations numbered (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 relationship can't be established between x and y.

66).I. x²- 4x - 621 = 0
II. y² - 56y + 783 = 0

67). I. 15x² - 34x + 15 = 0
II. 15y² + 22y + 8 = 0

68). I. x² = 121
II. y³ =1331

69). I. x² + 12x + 35 = 0
II. y² + 18y + 45 = 0

70). I. 14x² -41x + 15=0
II. 56y² - 54y+ 10 = 0

61) B
6x^2-49x+99=0
(3x-11) (2x-9)=0
x=11/3, 9/2
5^2+17y+14=>
(5y+7) (y+2)=>
y=-2,-7/5
x>y

62) D
5x^2-19x+12=0
x=3,4/5
5y^2+11y=12
y = 4/5 ,-3

63) B
x=11
2y^2-21y+55= 0
(2y-11) (y-5)= 0
y=5,11/2
x>y

64) B
From given equation
x=-7
y=-8
x>Y

65) C
2x^2-11x+12=>
x=3/2,4
2y^2-17y+36=>
y=4,9/2

66). D)
I. x² - (27-23)x-621=0
x² - 27x - 23x - 621=0
x (x-27) +23 (x-27)=0
(x-27) (x+23)=0
x=27, x= -23
II. y² - (29+27) y+783 = 0
y² - 29y - 27y + 783 =0
y (y-29) -27(y-29)=0

(y-29) (y-27) =0
y=29, y=27

67). A)
I. 15x²- (9+25)x + 15 =0
15x² - 9x - 25x + 15 = 0
3x (5x-3)-5 (5x-3)=0
(3x-5) (5x-3)=0

$$x=\frac{5}{3}, \quad x=\frac{3}{5}$$

II. 15y² +(10+12)y + 8 = 0
15y² + 10y + 12y + 8 = 0
5y (3y+2) +4 (3y+2)=0
(3y+2) (5y+4)=0

$$y=-\frac{2}{3}, \quad y=-\frac{4}{5}$$

68). D)
69). **E) I.** x² + (7+5)x + 35 = 0
x² + 7x + 5x + 35 =0
x (x+7) +5 (x+7)=0
(x+7) (x+5) = 0
x= -7, x=-5
II. y² + (15+3) +45=0
y² + 15y + 3y + 45=0
y (y+15)+3 (y+15)=0
(y+15) (y+3) = 0
y= -15, y=-3

70). E)
I. 14x² - (35+6)x +15=0
14x² -35x -6x+15=056
7x (2x-5)-3 (2x-5)=0
(2x-5) (7x-3)=0

$$x=\frac{5}{2}, x=\frac{3}{7}$$

II. 56y²- (40+14)y +10=0
56y² - 40y- 14y +10=0
8y(7y-5)-2(7y-50=0
(7y-5) (8y-2) =0

$y = \frac{5}{7}, y = \frac{2}{8}$

$y = \frac{5}{7}, y = \frac{1}{4}$

Directions(71-85): In each question two equations are given, find x and y and give the answer:
a) x> y
b) x< y
c) x ≥ y
d) x ≤ y
e) x = y or relation can not be established.

71)a) $3x^2 - 22x + 7 = 0$
   b) $y^2 - 15y + 56 = 0$

72)a) $2x^2 - 17x + 36 = 0$
   b) $2y^2 - 19y + 44 = 0$

73) x - √169 = 0
   b) $y^2 - 169 = 0$

74) a) $3x^2 + 20x + 25 = 0$
   b) $3y^2 + 14y + 8 = 0$

75) a) $3x^2 + 5x + 2 = 0$
   b) $3y^2 + 18y + 24 = 0$

76)a) $6x^2 + 31x + 35 = 0$
   b) $2y^2 + 3y + 1 = 0$

77) a) $2x^2 + 9x + 10 = 0$
   b) $4y^2 + 28y + 45 = 0$

78) a) $15x^2 - 11x - 12 = 0$
   b) $20y^2 - 49y + 30 = 0$

79) a) $2x^2 - 15 = 7x$
   b) $17y = -7 - 6y^2$

80) a) $3x^2 - 19x - 14 = 0$
   b) $2y^2 + 15y + 13 = 0$

81) a) $(x^3 - 13x + 12)/(x-1) = 0$
   b) $(y^3 + 5y^2 - 2y - 24)/(y-2) = 0$

82)a) y = 2x + 1
   b) 2y = 3x - 1

83) a) $9x^2 - 29x + 22 = 0$
   b) $y^2 - 7y + 12 = 0$
84) a) $3x^2 - 4x - 32 = 0$

   b) $12y^2 - 109y + 247 = 0$

85) a) $4x + 7y = 42$
    b) $3x - 11y = -1$

71)D
a) $3x^2 - 21x - x + 7 = 0$
   $3x(x-7) -1(x-7) = 0$
   $(3x-1)(x-7) = 0$
   $x = 7, 1/3.$
b) $y^2 -7y - 8y + 56 = 0$
   $y(y-7) - 8(y-7) = 0$
   $(y-8)(y-7) = 0$
   $y = 8, 7.$
Thus, y≥x.

72) E
a) $2x^2 - 8x - 9x + 36 = 0$
   $2x(x-4) - 9(x-4) = 0$
   $(2x-9)(x-4) = 0$
   $x = 9/2, 4.$
b) $2y^2 - 8y - 11y + 44 = 0$
   $2y(y-4) - 11(y-4) = 0$
   $(2y-11)(y-4) = 0$
   $y = 11/2, 4.$
Thus, no relation.

73) C
a) $x = 13$
b) $y = ±√169 = ±13.$
Thus, x≥y.

74) E
a) $3x^2 + 15x + 5x + 25 = 0$
   $3x(x+5) + 5(x+5) = 0$
   $(3x+5)(x+5) = 0$
   $x = -5/3, -5.$
b) $3y^2 + 12y + 2y + 8 = 0$
   $3y(y+4) + 2(y+4) = 0$
   $(3y+2)(y+4) = 0$
   $y = -2/3, -4.$
Thus, no relation.

75) A
a) $3x^2 + 3x + 2x + 2 = 0$
   $3x(x+1) + 2(x+1) = 0$

(3x+2)(x+1) = 0

x = -2/3, -1.

b) $3(y^2 + 6y + 8) = 0$

$y^2 + 6y + 8 = 0$

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

y(y+4) + 2(y+4) = 0

y = -2, -4.

Thus, x>y.

76) B

a) $6x^2 + 21x + 10x + 35 = 0$

3x(2x+7) + 5(2x+7) = 0

(3x+5)(2x+7) = 0

x = -5/3, -7/2.

b) $2y^2 + 2y + y + 1 = 0$

2y(y+1) + 1(y+1) = 0

(2y+1)(y+1) = 0

y = -1/2, -1.

Thus, x<y.

77) C

a) $2x^2 + 4x + 5x + 10 = 0$

2x(x+2) + 5(x+2) = 0

(2x+5)(x+2) = 0

x = -5/2, -2.

b) $4y^2 + 18y + 10y + 45 = 0$

2y(2y+9) + 5(2y+9) = 0

(2y+5)(2y+9) = 0

y = -5/2, -9/2.

Thus, x≥y.

78) E

a) $15x^2 - 20x + 9x - 12 = 0$

5x(3x-4) +3(3x-4) = 0

(5x+3)(3x-4) = 0

x = -3/5, 4/3.

b) $20y^2 - 25y - 24y + 30 = 0$

5y(4y-5) -6(4y-5) = 0

(5y-6)(4y-5) = 0

y = 6/5, 5/4.

Thus, no relation.

79) E

a) $2x^2 - 10x + 3x - 15 = 0$

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

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

x = -3/2, 5.

b) 6y² + 3y + 14y + 7 = 0

   3y(2y+1) +7(2y+1) = 0

   (3y+7)(2y+1) = 0

   y = -7/3, -1/2.

Thus, no relation.

80) A

a) 3x² - 21x - 2x - 14 = 0

   3x(x-7) -2(x-7) = 0

   (3x-2)(x-7)

   x = 2/3, 7.

b) 2y² +2y +13y + 13 = 0

   2y(y+1) +13(y+1) = 0

   (2y+13)(y+1) = 0

   y = -13/2, -1.

Thus, x>y.

81) C

a) (x³ - x - 12x + 12)/(x-1) = 0

   [x(x²-1) -12(x-1)]/(x-1) = 0

   [(x-1)(x+1)(x-12)]/(x-1) = 0

   x² + x - 12 = 0

Solving, x = 3, -4

b) y³ + 5y² - 2y - 24/(y-2) = 0

   y³ + 7y² - 2y² -14y + 12y - 24/(y-2) = 0

   (y-2)(y² + 7y + 12)/(y-2) = 0

   Solving, y = -4, -3.

Thus, x≥y.

82) A

Sol. Solving the two using substitution method,

x = -3

y = -5

Thus, x>y.

83) B

a) 9x² - 18x - 11x + 22 = 0

   9x(x-2) - 11(x-2) = 0

   (9x-11)(x-2) = 0

   x = 11/9, 2.

b) y² - 4y - 3y + 12 = 0

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

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

   y = 3, 4.

Thus, x<y.

84) B
a) 3x² - 12x + 8x - 32 = 0
   3x(x-4) + 8(x-4) = 0
   (3x+8)(x-4) = 0
   x = -8/3, 4.
b) 12y² - 52y - 57y + 247 = 0
   4y(3y - 13) - 19(y - 13) = 0
   (4y-19)(3y-13) = 0
   y = 19/4, 13/3.
Thus, x<y.

85) A
Sol. Solving the two equations using the substitution method,
x = 7
y = 2
Thus, x>y.

86). I. x2 – 4x + 3 = 0
II. y2 – 13y + 40 = 0
a. x > y
b. x ≥ y
c. x < y
d. x ≤ y
e. x = y or Cannot be determined.

87).I. 6x2 – 7x + 2 = 0
II. 6y2 + y – 2 = 0
a. x > y
b. x ≥ y
c. x < y
d. x ≤ y
e. x = y or Cannot be determined.

88). I. 4x4 – 5x2 + 1 = 0
II. 2y2 + 11y + 14 = 0
a. x > y
b. x ≥ y
c. x < y
d. x ≤ y
e. x = y or Cannot be determined.

89). I. 6x2 + 7x + 2 = 0
II. y2 – y – 2 = 0
a. x > y
b. x ≥ y
c. x < y
d. x ≤ y

e. x = y or Cannot be determined.

90). I. x2 – 3x + 2 = 0
II. y2 -5y + 6 = 0
a. x > y
b. x ≥ y
c. x < y
d. x ≤ y
e. x = y or Cannot be determined.

86. (c)
x2 – 4x + 3 = 0
(x – 1)(x – 3) = 0
x = 1 or 3
y2 – 13y + 40 = 0
(y – 5)(y – 8) = 0
y = 5 or 8
Largest value of x = 3 < 5 = Least value of y
So, x < y

87. (b)
6x2 – 7x + 2 = 0
(2x – 1)(3x – 2) = 0
x = 1/2 or 2/3
6y2 + y – 2 = 0
(2y – 1)(3y + 2) = 0
y = 1/2 or -2/3
Largest value of y = 1/2 = Least value of x
So, x ≥ y

88. (a)
4x4 – 5x2 + 1 = 0
(x2 – 1)(42 – 1) = 0
x = +1, -1, 1/2 or -1/2
2y2 + 11y + 14 = 0
(y + 2)(2y + 7) = 0
y = -2, -7/2
Least value of x = -1 > -2 = Largest value of y
So, x > y

89. (e)
6x2 + 7x + 2 = 0
(3x + 2)(2x + 1) = 0
x = -2/3 or -1/2
y2 – y – 2 = 0
(y – 2)(y + 1) = 0
y = -1 or + 2

If x = -1/2, y = -1, then x > y
If x = -1/2, y = +2, then x < y
So, we cant determine the relationship.

90. (d)
x2 – 3x + 2 = 0
(x – 1)(x – 2) = 0
x = 1 or 2
y2 -5y + 6 = 0
(y – 2)(y – 3) = 0
y = 2 or 3
Largest value of x = 2 = Least value of y
So x ≤ y

Direction (Q. 91 - 95): In Each of the following questions, two equations are given. You have to solve these questions and find out the values of x and y .
91. $16x^2 + 20x + 6 = 0$ and $10y^2 + 38y + 24 = 0$
 A. x > y
 B. x ≤ y
C. Relation can not be established or x = y
D. x ≥ y
E. x < y

92. $18x^2 + 18x + 4 = 0$ and $12y^2 + 29y + 14 = 0$
A. x ≥ y
B. x > y
C. x < y
D. x ≤ y
E. Relation can not be established or x = y

93. $8x^2 + 6x = 5$ and $12y^2 - 22y + 8 = 0$
A. x < y
B. Relation can not be established or x = y
C. x ≥ y
D. x > y
E. x ≤ y

94. $17x^2 + 48x - 9 = 0$ and $13y^2 = 32y - 21$
A. Relation can not be established or x = y
B. x > y
C. x < y
D. x ≥ y
E. x ≤ y

95. $821x^2 - 757x^2 = 256$ and $\sqrt{196}\ y^3 - 12y^3 = 16$
A. x ≤ y
B. x > y
C. Relation can not be established or x = y
D. x < y
E. x ≥ y

Directions (Q. 96 - 100) In the following question, two equations are given. You have to solve both the equations and choose the correct answer out of five alternatives.

96. 4x + 3y = √1600   and   6x - 5y = √484
A. x < y
B. x ≥ y
C. x > y
D. x ≤ y
E. Relation can not be extablished or x = y

97. 2x² - (4 - √13)x + 2√13 = 0and 10y² - (18 + 5√13)y + 9√13 = 0
A. x ≤ y
B. Relation can not be Established or x = y
C. x > y
D. x < y
E. x ≥ y

98. (6x² + 17) - (3x² + 20) = 0   and   (5y² - 12) - (9y² - 16) = 0
A. x > y
B. x ≤ y
C. x < y
D. Relation can not be extablished or x = y
E. x ≥ y

99. √(169) x + √289 = 134   and   √(361) y² - 270 = 1629
A. Relation can not be established or x = y
B. x ≥ y
C. x < y
D. x ≤ y
E. x > y

100. 63x - 194√x + 143 = 0 and 99y - 255√y + 150 = 0
A. Relation can not be established or x = y
B. x < y
C. x ≤ y
D. x > y
E. x ≥ y

91.(A)
16x² + 20x + 6 = 0
or, 8x² + 10x + 3 = 0
or, (4x + 3) (2x + 1) = 0
Therefore, x = -3/4 = -0.75   or   x = - 1/2 = - 0.5
AND
10y² + 38y + 24 = 0

or, 5y² + 19y + 12 = 0
or, (y + 3) (5y + 4) = 0
Therefore, y = - 3   or   y = - 4/5 = -0.8
Hence x > y

92.(A)
18x² + 18x + 4 = 0
or, 9x² + 9x + 2 = 0
or, (3x + 2) (3x + 1) = 0
Therefore, x = - 2/3 = -0.67   or   x = - 1/3 = -0.33
AND
12y² + 29y + 14 = 0
or, (3y + 2) (4y + 7) = 0
Therefore,   y = - 2/3 = -0.67   or   y = -7/4 = -1.75
Hence x ≥ y

93.(E)
8x² + 6x - 5 = 0
or, (4x + 5) (2x - 1) = 0
Therefore,   x = - 5/4 = -1.25   or   x = 1/2 = 0.5
AND
12y² - 22y + 8 = 0
or, 6y² -11y + 4 = 0
or, (2y -1) (3y - 4) = 0
Therefore, y = 1/2 = 0.5   or   y = 4/3 = 1.33
Hence x ≤ y

94.(C)
17x² + 48x - 9 = 0
or, (x + 3) (17x - 3) = 0
Therefore, x = -3   or   x = 3/17 = 0.18
AND
13y² - 32y + 12 = 0
or, (y -2) (13y - 6) = 0
Therefore, y = 2   or   y = 6/13 = 0.46
Hence x < y

95.(A)
64x² = 256
or, x² = 4
or, x = ±2
AND
14y³ - 12y³ = 16
or, 2y³ = 16
or, y³ = 8

or, y = 2
Hence x ≤ y

96.(C)
4x + 3y = 40 .... (i)
       6x - 5y = 22 ....(ii)
Solving the two equations we have,
x = 7
y = 4   **Hence x > y**

97.(E)
2x² - 4x - √13 x + 2√13 = 0
or, 2x (x - 2) - √13 (x - 2) = 0
or, (x - 2) (2x - √13) = 0
Therefore, x = 2   or   x = √13 /2 = 3.6 /2 = 1.8
AND
10y² - 18y - 5√13y + 9√13 = 0
or, 2y (5y - 9) - √13 (5y - 9) = 0
or, (5y - 9) (2y - √13) = 0
Therefore,   y = 9/5 = 1.8   or   y = √13 / 2 = 1.8
Hence x ≥ y

98.(D)
6x² + 17 - 3x² - 20 = 0
or, 3x² = 3
Therefore,   x = ± 1
AND
5y² - 12 - 9y² + 16 = 0
or, 4y² = 4
Therefore,   y = ± 1
Hence x = y

99.(B)
13x + 17 = 134
or, x = 117/13 = 9
AND
√(361) y² - 270 = 1629
or, 19y² = 1629 + 270 = 1539
or, y² = 1539/19 = 81
or, y = ± 9
Hence x ≥ y

100.(A)
63x - 194√x + 143 = 0
or, 63(√x)² - 117√x - 77√x + 143 = 0

or, (7√x - 13) (9√x - 11) = 0
Therefore, x = 169/49 = 3.45 or x = 121/81 = 1.49
AND
99y - 225√y + 150 = 0
or, 99(√y)² - 90√y - 165√y + 150
or, (11√y - 10) (9√y - 15) = 0
Therefore, y = 100/ 121 = 0.83   or   y = 225/81 = 2.8
Hence, Relation can not be established (Since it is not possible to get any conclusion)

101). $x^2 – 11x + 28 = 0$
$y^2 – 14y + 48 = 0$
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

102). $x^2 – 31x + 228 = 0$
$y^2 – 21y + 108 = 0$
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

103). $x^2 + 31x + 234 = 0$
$y^2 + 21y + 104 = 0$
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

104). $x^2 – 20x + 84 = 0$
$y^2 – 24y + 135 = 0$
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

105). $(x – 14)^2 = 0$
$y^2 = 196$
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

106). $x^2 - 43x + 450 = 0$
$y^2 - 32y + 255 = 0$
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

107). $x^2 - 27x + 182 = 0$
$y^2 - 36y + 323 = 0$
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

108). $x^2 - 37x + 322 = 0$
$y^2 - 22y + 120 = 0$
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

109). $x^2 = 81$
$y^2 - 30y + 225 = 0$
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

110). $x^2 - 30x + 221 = 0$
$y^2 - 33y + 270 = 0$
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

Solutions

101).E.
 X = Y or relation cannot be established
Explanation:
$x^2 - 11x + 28 = 0$
x = 7, 4
$y^2 - 14y + 48 = 0$
y = 6, 8

102) C.
X ≥ Y

Explanation:

$x^2 - 31x + 228 = 0$

x = 12, 19

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

y = 12, 9

103). D.

X ≤ Y

Explanation:

$x^2 + 31x + 234 = 0$

x = -13, -18

$y^2 + 21y + 104 = 0$

y = -13, -8

104). E.

X = Y or relation cannot be established

Explanation:

$x^2 - 20x + 84 = 0$

x = 14, 6

$y^2 - 24y + 135 = 0$

y = 15, 9

105). C.

X ≥ Y

Explanation:

$x^2 - 28x + 196 = 0$

x = 14, 14

$y^2 = 196$

y = ±14

106). A.

X > Y

Explanation:

$x^2 - 43x + 450 = 0$

x = 25, 18

$y^2 - 32y + 255 = 0$

y = 17, 15

107). B.

X < Y

Explanation:

$x^2 - 27x + 182 = 0$

x = 14, 13

$y^2 - 36y + 323 = 0$

y = 17, 19

108). A.
X > Y
Explanation:
$x^2 - 37x + 322 = 0$
x = 23, 14
$y^2 - 22y + 120 = 0$
y = 10, 12

109). B.
X < Y
Explanation:
$x^2 = 81$
x = 9, – 9
$y^2 - 30y + 225 = 0$
y = 15, 15

110). E.
X = Y or relation cannot be established
Explanation:
$x^2 - 30x + 221 = 0$
x = 13, 17
$y^2 - 33y + 270 = 0$
y = 15, 18

Directions (Q. 111-115) : In each of these questions, two equations (I) and (II) are given. You have to solve both the equations and give answer
(1) if x > y   (2) if x ≥ y   (3) if x < y   (4) if x ≤ y
(5) if x = y or no relationship can be established.

111. I. $20x^2 - 67x + 56 = 0$ II. $56y^2 - 67y + 20 = 0$
112. I. $x^4 = 65536$ II. $y = \sqrt[3]{4096}$
113. I. $2x^2 + 11x - 40 = 0$ II. $4y^2 - 27y + 44 = 0$
114. I. $7x = 4y + 85$ II. $y = \sqrt[3]{17576}$
115. I. $x^2 = 14641$ II. $y = \sqrt{14641}$

Directions (Q. 116-120): In each of these questions, two equations (I) and (II) are given. You have to solve both the equations and give answer
(1) if x > y   (2) if x ≥ y   (3) if x < y   (4) if x ≤ y
(5) if x = y or if there is no relation between 'x' and 'y'.

116. I. $x^2 + 42 = 13x$ II. $y = \sqrt[4]{1296}$
117. I. $x^2 + x - 2 = 0$ II. $y^2 + 7y + 12 = 0$
118. I. $3x^2 - 23x + 40 = 0$ II. $2y^2 - 23y + 66 = 0$
119. I. $15x^2 - 46x + 35 = 0$ II. $4y^2 - 15y + 14 = 0$
120. I. $x^2 + 5x - 6 = 0$ II. $2y^2 - 11y + 15 = 0$

Solutions

111. 1; I. $20x^2 - 35x - 32x + 56 = 0$
or $5x(4x - 7) - 8(4x - 7) = 0$
or $(5x - 8)(4x - 7) = 0$

∴ $x = \frac{8}{5}, \frac{7}{4}$

II. $56y^2 - 32y - 35y + 20 = 0$
or $8y(7y - 4) - 5(7y - 4) = 0$
or $(8y - 5)(7y - 4) = 0$

∴ $y = \frac{5}{8}, \frac{4}{7}$ ∴ $x > y$

112. 4; I. $x^4 = 65536$
∴ $x = \pm16$

II. $y = \sqrt[3]{4096}$

∴ $y = 16$ ∴ $x \leq y$

113. 3; I. $2x^2 + 16x - 5x - 40 = 0$
or $2x(x + 8) - 5(x + 8) = 0$
or $(2x - 5)(x + 8) = 0$

∴ $x = \frac{5}{2}, -8$

II. $4y^2 - 16y - 11y + 44 = 0$
or $4y(y - 4) - 11(y - 4) = 0$
or $(4y - 11)(y - 4) = 0$

∴ $y = 4, \frac{11}{4}$ ∴ $x < y$

114. 1; I. $7x = 4y + 85$
or $7x = 4 \times 26 + 85$ (Put $y = 26$)

∴ $x = \frac{189}{7} = 27$

II. $y = \sqrt[3]{17576}$ ∴ $y = 26$
∴ $x > y$

115. 4; I. $x^2 = 14641$
∴ $x = \pm121$

II. $y = \sqrt{14641}$

∴ $y = 121$
∴ $x \leq y$

116. 2; I. $x^2 + 42 = 13x$
or $x^2 - 13x + 42 = 0$
or $x^2 - 7x - 6x + 42 = 0$
or $x(x - 7) - 6(x - 7) = 0$
or $(x - 6)(x - 7) = 0$
∴ $x = 6, 7$

II. $y = \sqrt[4]{1296}$

∴ $y = 6$
∴ $x \geq y$

117. 1; I. $x^2 + x - 2 = 0$
or $x^2 + 2x - x - 2 = 0$
or $x(x + 2) - 1(x + 2) = 0$
or $(x - 1)(x + 2) = 0$
∴ $x = 1, -2$
II. $y^2 + 7y + 12 = 0$
or $y^2 + 3y + 4y + 12 = 0$
or $y(y + 3) + 4(y + 3) = 0$

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

$\therefore y = -3, -4$

$\therefore x > y$

118. 3: I. $3x^2 - 23x + 40 = 0$

or $3x^2 - 15x - 8x + 40 = 0$

or $3x(x - 5) - 8(x - 5) = 0$

or $(3x - 8)(x - 5) = 0$

$\therefore x = 5, \frac{8}{3}$

II. $2y^2 - 23y + 66 = 0$

or $2y^2 - 12y - 11y + 66 = 0$

or $2y(y - 6) - 11(y - 6) = 0$

or $(y - 6)(2y - 11) = 0$

$\therefore y = 6, \frac{11}{2}$

$\therefore x < y$

119. 3: I. $15x^2 - 25x - 21x + 35 = 0$

or $5x(3x - 5) - 7(3x - 5) = 0$

or $(5x - 7)(3x - 5) = 0$

$\therefore x = \frac{7}{5}, \frac{5}{3}$

II. $4y^2 - 8y - 7y + 14 = 0$

or $4y(y - 2) - 7(y - 2) = 0$

or $(4y - 7)(y - 2) = 0$

$\therefore y = 2, \frac{7}{4}$

$\therefore x < y$

120. 3: I. $x^2 - x + 6x - 6 = 0$

or $x(x - 1) + 6(x - 1) = 0$

or $(x - 1)(x + 6) = 0$

$\therefore x = 1, -6$

II. $2y^2 - 6y - 5y + 15 = 0$

or $2y(y - 3) - 5(y - 3) = 0$

or $(y - 3)(2y - 5) = 0$

$\therefore y = 3, \frac{5}{2}$

$\therefore x < y$

Directions (Q. 121 – 130): In each of these questions, two equations (I) and (II) are given. You have to solve both the equations and give answer

1) if x > y

2) if x ≥ y

3) if x < y

4) if x ≤ y

5) if x = y or relationship between x and y cannot be established

121) I. $7 x^2 - 9 x + 2 = 0$

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

122) I. $x^2 = 64$

II. $2 y^2 + 25 y + 72 = 0$

123) I. $x^2 + x - 20 = 0$

II. $2 y^2 - 19 y + 45 = 0$

124) I. $7 x + 3 y = 26$

II. $2 x + 17 y = - 41$

125) I. $3 x^2 - 20 x + 33 = 0$

II. 2 y² – 11 y + 15 = 0

126) I. 4 x² – 43 x + 105 = 0
II. 7 y² – 29 y + 30 = 0

127) I. x² + 13 x + 40 = 0
II. y² + 7 y + 10 = 0

128) I. x = ³√2197
II. 2 y² – 54 y + 364 = 0

129) I. 5 x² – 27 x + 36 = 0
II. y² – 3 y + 2 – 0

130) I. 13 x – 8 y + 81 = 0
II. 15 x + 5 y + 65 = 0

121). D) ;
I. 7x2 – 7x – 2x + 2 = 0
or, 7x(x – 1) –2(x – 1) = 0
 (7x – 2) (x – 1) = 0
or, x = 2/7 , 1
 II. y 2 – y – 3y + 3 = 0
or, y(y – 1) –3(y – 1) = 0
 or, (y – 3) (y – 1) = 0
 y = 1, 3
x≤y

122). E);
I. x2= 64
x = ±8
2y2 + 9y + 16y + 72 = 0
or, y(2y + 9) + 8(2y + 9) = 0
or, (y + 8) (2y + 9) = 0
 y = –8,-9/2
if x = y or relationship between x and y cannot be established

123). C);
I. x2 + x – 20 = 0
or, x2+ 5x – 4x – 20 = 0
or, x(x + 5) –4(x + 5) = 0
or, (x – 4) (x + 5) = 0
 x = 4, – 5
II. 2y2 – 10y – 9y + 45 = 0
or, 2y(y – 5) –9(y – 5) = 0
or, (y – 5) (2y – 9) = 0
y = 5, 9/2
x < y

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124). A);
Eqn (I) $\times$ 2 $\rightarrow$ 14 x+ 6y= 52
Eqn (II) $\times$ 7 $\rightarrow$ 14 x +119 y =287
 y = –3 and x = 5, ie x > y

125). B);
I. $3x^2 – 9x – 11x + 33 = 0$
or, 3x(x – 3) – 11(x – 3) = 0
or, (3x – 11) (x – 3) = 0
x =11/ 3, 3
II. $2y^2 – 6y – 5y + 15 = 0$
or, 2y(y – 3) –5(y – 3) = 0
or, (y – 3) (2y – 5) = 0
y = 3, 5/2
x $\geq$ y

126). A);
I. $4x^2– 28x – 15x + 105 = 0$
or, 4x(x – 7) –15(x – 7) = 0
or, (x – 7) (4x – 15) = 0
x = 7, 15/4
II. $7y^2 – 14y – 15y + 30 = 0$
or, 7y(y – 2) – 15(y – 2) = 0
or, (y – 2) (7y – 15) = 0
y = 2, 15/7
x > y

127). D)
I. $x^2 + 8x + 5x + 40 = 0$
or, x(x + 8) + 5(x + 8) = 0
or, (x + 5) (x + 8) = 0
x = –5, – 8
II. $y^2 + 2y + 5y + 10 = 0$
or, y(y + 2) +5(y + 2) = 0
or, (y + 2) (y + 5) = 0
 y = –2, –5
x $\leq$ y

128). D);
I. $x=\sqrt[3]{2197}$

 x = 13
II. $2y^2 – 28y – 26y + 364 = 0$
or, 2y(y – 14) –26(y – 14) = 0

or, (2y – 26) (y – 14) = 0
 y = 14, 13
x ≤ y

129). A);
I. $5x^2 – 15x – 12x + 36 = 0$
or, $5x(x – 3) – 12(x – 3) = 0$
or, $(5x – 12) (x – 3) = 0$
 x = 12/5 , 3
II. $y^2 – y – 2y + 2 = 0$
or, y(y – 1) –2(y – 1) = 0
or, (y – 1) (y – 2) = 0
 y = 1, 2
x > y

130). C);
eqn (I) × 5 → (65x- 40y +405= 0)+ eqn (II) × 8→(120x +40y+ 520= 0)
= 185x = -925
 x = -5
y = (13x + 81)/8 → (-65+81)/8 → 16/8 = 2
x < y

Directions (131-135): In each of these questions, two equations numbered I and II with variables x and y are given. You have to solve both the equations to find the value of x and y.
131) I. $12x^2 – 59x + 72 = 0$
II. $8y^2 – 58y + 99 = 0$
(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 cannot be determined.

132) I. $x^2 + x – 20 = 0$
II. $y^2 + 13y + 40 = 0$
(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 cannot be determined.

133) I. $x^2 + 12x + 36 = 0$
II. $5y^2 – 2 \sqrt{15}y + 3 = 0$
(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 cannot be determined.

134) I. 10x2 – 29x – 21 = 0
II. y2 + 13y – 68 = 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 cannot be determined.

135) I. 72x2 – 163x + 88 = 0
II. 56y2 – 187y + 156 = 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 cannot be determined.

Directions (Q. 136-140): Two equations (I) and (II) are given in each question. On the basis of these equations you have to decide the relation between 'x' and 'y' and give answer.
(1) if x > y
(2) if x < y

(3) if x≥ y

(4) if x ≤y

(5) if x = y or no relation can be established between 'x' and 'y'.
136). I. 6x2 - 19x + 15 = 0
II. 10y2 - 29y + 21 = 0

137). I. 12x2 + 11x - 56 = 0
II. 4y2 - 15y + 14 = 0

138). I. 3x2+ 13x + 12 = 0
II. y2 + 9y + 20 = 0

139). I. 8x2 - 15x + 7 = 0
II. 2y2 - 7y + 6 = 0

140). I. 7x - 3y = 13
II. 5x + 4y = 40

131) Ans.(c)
Sol. I. 12x2 – 32x – 27x + 72 = 0
(3x – 8) (4x – 9) = 0
x = 8/3, 9/4
II. 8y2 – 22y – 36y + 99 = 0
(2y – 9) (4y – 11) = 0
y = 9/2, 11/4
x < y

132) Ans.(b)
Sol. I. x2 + 5x – 4x – 20 = 0

(x – 4) (x + 5) = 0
x = 4, –5
II. y^2 + 5y + 8y + 40 = 0
(y + 8) (y + 5) = 0
y = –8, – 5
x >= y

133) Ans.(c)
Sol. I. $(x + 6)^2$ = 0
x = –6
II. 2
$(\sqrt{5}y – \sqrt{3})^2$ = 0
y = $\sqrt{3}/\sqrt{5}$
x < y

134) Ans.(e)
Sol. I. $10x^2$ – 35x + 6x – 21 = 0
(5x + 3) (2x – 7) = 0
x = –3/5, 7/2
II. y^2 + 17y – 4y – 68 = 0
(y – 4) (y + 17) = 0
y = 4, – 17
No relationship between x and y exists.

135) Ans.(c)
Sol. I. $72x^2$ – 64x – 99x + 88 = 0
(8x – 11) (9x – 8) = 0
x = 11/8, 8/9
II. $56y^2$ – 91y – 96y + 156 = 0
(7y – 12) (8y – 13) = 0
y = 12/7, 13/8
x < y

136). C);
I. $6x^2$- 9x - 10x + 15 = 0
or, 3x(2x - 3) - 5(2x - 3) = 0
or, (3x - 5) (2x - 3) = 0
x =5/3, 3/2
II. $10y^2$- 15y - 14y + 21 = 0
or, 5y(2y - 3) - 7(2y - 3) = 0
or, (5y - 7) (2y - 3) = 0
y =7/5, 3/2
 x ≥ y

137). D);

I. $12x^2 + 32x - 21x - 56 = 0$
or, $4x(3x + 8) - 7(3x + 8) = 0$
or, $(4x - 7)(3x + 8) = 0$
$x = (7/4), (-8/3)$
II. $4y^2 - 8y - 7y + 14 = 0$
or, $4y(y - 2) - 7(y - 2) = 0$
or, $(4y - 7)(y - 2) = 0$
$y = 2, 7/4$
$x \leq y$

138). A);
I. $3x^2 + 9x + 4x + 12 = 0$
or, $3x(x + 3) + 4(x + 3) = 0$
or, $(3x + 4)(x + 3) = 0$
$x = -4/3, -3$
II. $y^2 + 5y + 4y + 20 = 0$
or, $y(y + 5) + 4(y + 5) = 0$
or, $(y + 4)(y + 5) = 0$
$y = -4, -5$
$x > y$

139). B);
I. $8x^2 - 8x - 7x + 7 = 0$
or, $8x(x - 1) - 7(x - 1) = 0$
or, $(8x - 7)(x - 1) = 0$
$x = 7/8, 1$
II. $2y^2 - 4y - 3y + 6 = 0$
or, $2y(y - 2) - 3(y - 2) = 0$
or, $(y - 2)(2y - 3) = 0$
$y = 2, 3/2$

140). B);
Eqn (I) $\times 4$ + Eqn (II) $\times 3$
$28x - 12y = 52$
$15x + 12y = 120$
$43x = 172$
$x = 4$ and $y = 5$
$x < y$

Directions (Q. 141-145): In the following questions, two equations numbered I and II are given. You have to solve both the equations and give answer
(1) if x > y
(2) if x < y
(3) if x≥ y
(4) if x ≤y

(5) if x = y or no relation can be established between 'x'and 'y'.

141). I. $2x^2 - 11x + 15 = 0$
II. $21y^2 - 23y + 6 = 0$

142). I. $5x^2 - 16x + 11 = 0$
II. $5y^2 - 3y - 2 = 0$

143). I. $x^2 + 11x + 28 = 0$
II. $2y^2 + 13y + 20 = 0$

144). I. $6x^2 + 29x + 35 = 0$
II. $3y^2 + 19y + 30 = 0$

145). I. $2x + 5y = 6$
II. $5x + 11y = 9$

Directions (Q. Nos. 146-150) In the following questions two equations numbered I and II are given. You have to solve both the equations and—Give answer

(1) if x > y

(2) if x < y

(3) if x≥ y

(4) if x ≤y

(5) if x = y or no relation can be established between 'x'and 'y'.

146. I. $\sqrt{1225}x + \sqrt{4900} = 0$
 II. $(81)^{1/4} y + (343)^{1/3} = 0$

147. I. $18/x^2 + 6/x - 12/x^2 = 8/x^2$
II. $y^2 + 9.68 + 5.64 = 16.95$

148. I. $[(2)^5 + (11)^3] / 6 = x^3$
II. $4y^3 = - (589 \div 4) + 5y^3$

149. I. $12x^2 + 11x + 12 = 10x^2 + 22x$
II. $13y^2 - 18y + 3 = 9y^2 - 10y$

150. I. $(x^{7/5} \div 9) = 169 \div x^{3/5}$
 II. $y^{1/4} \times y^{1/4} \times 7 = 273 \div y^{1/2}$

141). A);
I. $2x^2 - 6x - 5x + 15 = 0$
or, $2x(x - 3) - 5(x - 3) = 0$
or, $(2x - 5) (x - 3) = 0$
x = 3, 5/2
II. $21y^2 - 14y - 9y + 6 = 0$
or, $7y(3y - 2) - 3 (3y - 2) = 0$
or, $(7y - 3)(3y - 2) = 0$
y = 3/7, 2/3
 x > y

142). C);
I. $5x^2 - 5x - 11x + 11 = 0$
or, $5x(x - 1) - 11(x - 1) = 0$
or, $(x - 1)(5x - 11) = 0$
$x = 1, 11/5$
II. $5y^2 - 5y + 2y - 2 = 0$
or, $5y(y - 1) + 2(y - 1) = 0$
or, $(5y + 2)(y - 1) = 0$
$y = 1, -2/5$
$x \geq y$

143). D);
I. $x^2 + 4x + 7x + 28 = 0$
or, $x(x + 4) + 7(x + 7) = 0$
or, $(x + 4)(x + 7) = 0$
$x = -4, -7$
II. $2y^2 + 8y + 5y + 20 = 0$
or, $2y(y + 4) + 5(y + 4) = 0$
or, $(y + 4)(2y + 5) = 0$
 $y = -4, -5/2$
$x \leq y$

144). A);
I. $6x^2 + 15x + 14x + 35 = 0$
or, $3x(2x + 5) + 7(2x + 5) = 0$
or, $(3x + 7)(2x + 5) = 0$
$x = -7/3, -5/2$
II. $3y^2 + 9y + 10y + 30 = 0$
or, $3y(y + 3) + 10(y + 3) = 0$
or, $(3y + 10)(y + 3) = 0$
$y = -3, -10/3$
$x > y$

145). B);
eqn(I) $\times$ 5 - eqn(II) $\times$ 2
$(10x + 25y = 30) - (10x \pm 22y = 18) =$
$3y = 12$
 $y = 4$ and $x = -7$
$y > x$

146). A);
I. $\sqrt{1225}x + \sqrt{4900} = 0$ □ □

or, $35x + 70 = 0$ or, $x = -70/35 = -2$

II. 3y + 7 = 0 or y = (-7/3)

∴. x > y

147). E);
I. (18 +6x- 12)/x^2 = 8/x^2

or, x =1/3 = 0.33

II. y2 = 16.95 - 9.68 - 5.64 = 1.63

y = ±1.277

148). A); I. x^3 = (32 + 1331)/6

II. 5y3 - 4y3 = 589/4

or y3 = 589/4

x > y

149). C);
I. 2x2 - 11x + 12 = 0

or, x = 4,3/2

II. 4y2- 8y + 3 = 0

Y=3/2, 1/2

x > y

150). D);
I.x^(7/5) ÷ 9 = 169 ÷ x^(3/5)

x^(7/5) × x^(3/5) = 169 × 9

x^2 = 1521

x = ± 39

II.y^(1/4) × y^(1/4) × y^(1/2) = 273/7

or, y^[(1/4)+^(1/4)+1/2)] = 39

or, y = 39

x ≤ y

151). 5x + 2y = 31
3x + 7y = 36
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

152). x² – x – √3x + √3= 0
y² – 3y + 2 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y

E. X = Y or relation cannot be established

153). [48 / x$^{4/7}$] – [12 / x$^{4/7}$] = x$^{10/7}$
y^3 + 783 = 999
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

154). 17^2 + 144 ÷ 18 = x
26^2 – 18 * 21 = y
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

155). 5/7 – 5/21 = √x/42
√y/4 + √y/16 = 250/√y
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

156). 9/√x + 19/√x = √x
y5 – [(28)$^{11/2}$ /√y] = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

157). 12/√x – 23/√x = 5√x
√y/12 – 5√y/12 = 1/√y
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

158). 7x + 6y + 4z = 122
4x + 5y + 3z = 88
9x + 2y + z = 78
A. X < Y = Z
B. X ≤ Y < Z
C. X < Y > Z
D. X = Y > Z
E. X = Y = Z or relation cannot be established

159). (x+y)³ = 1331
x − y + z = 0
xy = 28
A. X < Y = Z
B. X ≤ Y < Z
C. X < Y > Z
D. X = Y > Z
E. X = Y = Z or relation cannot be established

160). 7x + 6y = 110
4x + 3y = 59
x + z = 15
A. X < Y = Z
B. X ≤ Y < Z
C. X < Y > Z
D. X = Y > Z
E. X = Y = Z or relation cannot be established

151). A.
X > Y
Explanation:
5x + 2y = 31 —-(1)
3x + 7y = 36 —-(2)
By solving eqn(1) and (2)
x = 5 ; y = 3

152) **E.**
X = Y or relation cannot be established
Explanation:
$x^2 – x – \sqrt{3}x + \sqrt{3} = 0$
$x(x-1) – \sqrt{3}(x -1) = 0$
$(x-1)(x-\sqrt{3}) = 0$
x = 1, 1.732
$y^2 – 3y + 2 = 0$
$y^2 – y – 2y + 2 = 0$
y = 1, 2
Put on number line
1, 1, 1.732, 2

153). D.
X ≤ Y
Explanation:
$(48 – 12) / x^{4/7} = x^{10/7}$
$36 = x^{(10/7 + 4/7)}$
$36 = x^2$
$x = \pm 6$
$y^3 + 783 = 999$
$y^3 = 999 – 783$
$y^3 = 216$

y = 6
Put on number line
-6, 6, 6

154). B.
X < Y
Explanation:
$17^2 + 144 \div 18 = x$
x = 297
$26^2 - 18 * 21 = y$
y = 676 – 378 = 29

155). B.
X < Y
Explanation:
$5/7 - 5/21 = \sqrt{x}/42$
$10/21 = \sqrt{x}/42$
$\sqrt{x} = 20$
x = 400
$\sqrt{y}/4 + \sqrt{y}/16 = 250/\sqrt{y}$
$5\sqrt{y}/16 = 250/\sqrt{y}$
y = 800

156). E.
X = Y or relation cannot be established
Explanation:
$9/\sqrt{x} + 19/\sqrt{x} = \sqrt{x}$
x = 28
$y5 - [(28)^{11/2} /\sqrt{y}] = 0$
$y^{11/2} = (28)^{11/2}$
y = 28

157). A.
X > Y
Explanation:
$12/\sqrt{x} - 23/\sqrt{x} = 5\sqrt{x}$
-11 = 5x
x = -2.2
$\sqrt{y}/12 - 5\sqrt{y}/12 = 1/\sqrt{y}$
$\sqrt{y}[1/12 - 5/12] = 1/\sqrt{y}$
y = -3

158). A.
X < Y = Z
Explanation:

7x + 6y + 4z = 122 —(1)
4x + 5y + 3z = 88 —(2)
9x + 2y + z = 78 —(3)
From (1) and (2) => 5x – 2y =4 —(a)
From (2) and (3) => 23x + y = 146 —(b)
From (a) and (b) => x = 6, y = 8. Put values in eqn (3) => z = 8

159). E.
X = Y or relation cannot be established
Explanation:
$(x + y)^3 = 1331$
x + y = 11 —(a)
$(x + y)2 = 121$
$(a + b)2 – (a – b)2 = 4ab$
$(x – y)2 + 4xy = 121$
x – y = 3 —(b)
From eqn (a) and (b)
x = 7; y = 4 Put values in eqn (2) => z = -3

160). C.
X < Y > Z
Explanation:
7x + 6y = 110 —(1)
4x + 3y = 59 —(2)
x + z = 15 —(3)
From eqn(1) and (2)
x = 8; y = 9 Put values in eqn (3) => z = 7

Directions (Q. 161-170):

In each of the following questions two equations are given. Solve these equations and give answer :

A) if x >= 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 <= y, i.e x is less than or equal to y
D) if x < y, i.e x less than y
E) if x = y,or no relation can be established between x and y

161)
. I. $x^2 + 5x + 6 = 0$
II. $y^2 + 7y + 12 = 0$
162).
. I. $x^2 + 20 = 9x$
II. $y^2 + 42 = 13y$
163).

I.2x + 3y = 14

II. 4x + 2y = 16

164).

I.x = Sqrt625

II.y = sqrt 676

165).

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

II.$y^2 - 8y + 16 = 0$

166).

I.$x^2 - 19x + 84 = 0$

II.$y^2 - 25y + 156 = 0$

167).

I.$x^3 - 468 = 1729$

II.$y^2 - 1733 + 1564 = 0$

168).

I. $9/\sqrt{x} + 19/\sqrt{x} = \sqrt{x}$

II.$y^5 - (2 \times 14)^{11/2}/\sqrt{y} = 0$

169).

I.$\sqrt{784}x + 1234 = 1486$

II. $\sqrt{1089}y + 2081 = 2345$

170).

I.$12/\sqrt{x} - 23/\sqrt{x} = 5\sqrt{x}$

$\sqrt{y}/12 - 5\sqrt{y}/12 = 1/\sqrt{y}$

161). A)

I. $x^2 + 5x + 6 = 0$

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

=>x(x + 2) + 3(x + 2) = 0

=>(x + 3)(x + 2) =0

=> x= -3 or -2

II. $y^2 + 7y + 12 = 0$

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

=>y(y + 4) + 3 (y + 4) = 0

=>(y + 3) (y + 4) = 0

=> y = - 3 or - 4

162). D)

I. $x^2 - 9x + 20 = 0$
$x^2 - 5x - 4x + 20 = 0$
$x(x - 5) - 4(x - 5) = 0$
$(x - 4)(x - 5) = 0$
$x = 4$ or 5

II. $y^2 - 13y + 42 = 0$
$=> y^2 - 7y - 6y + 42 = 0$
$=> y(y - 7) - 6(y - 7) = 0$
$=> (y - 6)(y - 7) = 0$
$=> y = 6$ or 7

163). D)

Answer 3. $2x + 3y = 14$….(i)
$4x + 2y = 16$….(ii)

On solving, (i) x 2 – (ii) we get,

$4x + 6y - 4x - 2y = 28 - 16$
$=> 4y = 12 => y = 3$
So, the value of x will be –
$2x + 3 \times 3 = 14$
$=> 2x = 14 - 9 = 5 => x = 5/2$

164). E)

I. $x = \sqrt{625} = +25$ or -25
II. $y = \sqrt{676} = +26$ or -26

165). D)

I. $x^2 + 4x + 4 = 0$
$(x + 2)^2 = 0 => x = -2$

II. $y^2 - 8y + 16 = 0$
$=> (y - 4)^2 = 0$
$=> y = 4$

166). C)

I. $x^2 - 19x + 84 = 0$

$\Rightarrow x^2 - 12x - 7x + 84 = 0$

$\Rightarrow x(x - 12) - 7(x - 12) = 0$

$\Rightarrow (x - 7)(x - 12) = 0$

So, x = 7 or x = 12

II. $y^2 - 25y + 156 = 0$

$\Rightarrow y^2 - 12y - 13y + 156 = 0$

$\Rightarrow y(y - 12) - 13(y - 12) = 0$

$\Rightarrow (y - 13)(y - 12) = 0$

So, y = 12 or 13

167). A)

I. $x^3 = 1729 + 468 = 2197$

So, $x = \sqrt[3]{2197} = 13$

II. $y^2 = 1733 - 1564 = 169$

So, $y = \sqrt{169} = +13$ or -13

168). E)

I. $9 + 19 = \sqrt{x} + \sqrt{x}$

$\Rightarrow 28 = x$

II. $y_5 \times y_{1/2} = (28)_{11/2}$

$\Rightarrow y_{11/2} = (28)^{11/2}$

$\Rightarrow y = 28$

169). B)

Answer 9. I. $\sqrt{784}x = 1486 - 1234 = 252$

$\Rightarrow x = 252/\sqrt{784} = 252/28 = 9$

II. $\sqrt{1089}y = 2345 - 2081 = 264$

$\Rightarrow y = 264/\sqrt{1089} = 264/33 = 8$

170). B)

I. $12 - 23 = 5\sqrt{x} \times \sqrt{x}$

$\Rightarrow -11 = 5x$

$\Rightarrow x = -11/5$

II. $(\sqrt{y} - 5\sqrt{y})/12 = 1/\sqrt{y}$

$\Rightarrow -4\sqrt{y} \times \sqrt{y} = 12$

$\Rightarrow -4y = 12$

$\Rightarrow y = -3$

Directions (Q. 171 - 180): You have to solve equation I and II ,Give answer
1)If X>Y
2)If X<Y

3)If X≥ Y
4)If X≤ Y
5)If X=Y or cannot be established

171). I. $4X^2 - 19X + 12 = 0$
II. $3Y^2 + 8Y + 4 = 0$

172). I. $X^2 = 729$
II. $Y - \sqrt{324} = \sqrt{81}$

173). I. $X^2 + X - 56 = 0$
II. $Y^2 - 17Y + 72 = 0$

174). I. $20X^2 - 17X + 3 = 0$
II. $20Y^2 - 9Y + 1 = 0$

175). I. $3X^2 - 10X + 8 = 0$
II. $Y^2 + 3Y - 4 = 0$

176). I. $X^2 + 5X + 6 = 0$
II. $Y^2 + 3Y + 2 = 0$

177). I. $2X^2 + 5X + 2 = 0$
II. $4Y^2 - 1 = 0$

178). I. $X^2 + 14X - 72 = 0$
II. $3Y^2 + 14Y + 15 = 0$

179). I. $X^2 + 8X + 15 = 0$
II. $Y^2 - Y + 12 = 0$

180). I. $4X^2 - 13X - 12 = 0$
II. $Y^2 - 7Y - 60 = 0$

171). I. $4X^2 - 19X + 12 = 0$
II. $3Y^2 + 8Y + 4 = 0$
Answer –**1)If X>Y**
Explanation :
(x-4)(4x-3) = 0
X=4,3/4
(y+2)(3y+2) = 0
y=-2, -2/3
4,3/4,-2/3,-2
x>y
172). I. $X^2 = 729$
II. $Y - \sqrt{324} = \sqrt{81}$
Answer –**4)If X≤ Y**
Explanation :
X= ±27

Y = 9+18 = 27

x≤y

173). I. $X^2 + X - 56 = 0$

II. $Y^2 - 17Y + 72 = 0$

Answer –**2)If X<Y**

Explanation :

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

X=7,-8

(y-8)(y-9) = 0

Y=8, 9

9,8,7,-8

Yyxx = x<y

174). I. $20X^2 - 17X + 3 = 0$

II. $20Y^2 - 9Y + 1 = 0$

Answer –**3)If X≥ Y**

Explanation :

(4x-1)(5x-3) = 0

X=1/4, 3/5

(4y-1)(5y-1) =0

Y = 1/4, 1/5

3/5, ¼,1/4, 1/5

X≥ Y

175). I. $3X^2 - 10X + 8 = 0$

II. $Y^{2 +} 3Y - 4 = 0$

Answer –**1)If X>Y**

Explanation :

(x-2)(3x-4) = 0

X=2, 4/3

(y-1)(y+4) = 0

Y = 1, -4

2,4/3,1,-4

x>y

176). I. $X^2 + 5X + 6 = 0$

II. $Y^2 + 3Y + 2 = 0$

Answer –**4)If X≤ Y**

Explanation :

(x+2)(x+3) = 0

X=-2,-3

(y+1)(y+2) = 0

Y=-1,-2

-1,-2,-2,-3

x≤y

177). I. $2X^2 + 5X + 2 = 0$

II. $4Y^2 - 1 = 0$

Answer –**4)If X≤ Y**
Explanation :
$(2x+1)(x+2) = 0$
X= – 1/2, -2
Y = ½, -1/2
x≤y

178). I. $X^2 + 14X -72 = 0$
II. $3Y^2 + 14Y + 15 = 0$
Answer – **5)If X=Y or cannot be established**
Explanation :
$(x-4)(x+18) = 0$
X=4,-18
$(y+3)(3y+5) = 0$
Y= -3, -5/3

179). I. $X^2 + 8X + 15 = 0$
II. $Y^2 – Y + 12 = 0$
Answer – **4)If X≤ Y**
Explanation :
$(x+5)(x+3) = 0$
X=-5,-3
$(y-4)(y+3) = 0$
Y=4,-3
x≤y

180). I. $4X^2 – 13X – 12 = 0$
II. $Y^2 – 7Y – 60 = 0$
Answer – **5)If X=Y or cannot be established**
Explanation :
$(x-4)(4x+3) = 0$
X=4, -3/4
$(x+5)(x-12) = 0$
Y = 12, -5

Directions (Q. 181-185) : In each of these questions, two equations (I) and (II) are given. You have to solve both the equations and give answer

(1) if x > y   (2) if x ≥ y   (3) if x < y   (4) I x ≤ y

(5) if x = y or no relation can be established between x and y.

181.   I. $x^2 - 2x - 15 = 0$ II. $y^2 + 5y + 6 = 0$

182.   I. $x^2 - x - 12 = 0$ II. $y^2 - 3y + 2 = 0$

183.   I. $x - \sqrt{169} = 0$ II. $y^2 - 169 = 0$

184.   I. $x^2 - 32 = 112$ II. $y - \sqrt{256} = 0$

185.   I. $x^2 - 25 = 0$ II. $y^2 - 9y + 20 = 0$

Directions (Q. 186-190): In the following questions, three equations numbered I, II and III are given. You have to solve all the equations either together or separately, or two together and one separately or by any other method and give answer

(1) if x = y > z   (2) if x < y = z   (3) if x < y > z

(4) if x = y = z or if none of the above relationship can be established.   (5) if x ≤ y < z

186.   I. $3x + 5y = 69$ II. $9x + 4y = 108$ III. $x + z = 12$

187.   I. $y = \sqrt{(729)^{\frac{1}{3}} \times (6541)^{\frac{1}{4}}}$ II. $2x + 5z = 54$ III. $6x + 4z = 74$

188.   I. $2x + 3y + 4z = 66$ II. $2x + y + 3z = 42$ III. $3x + 2y + 4z = 63$

189.   I. $(x + z)^3 = 1728$ II. $2x + 3y = 35$ III. $x - z = 2$

190.   I. $4x + 5y = 37$ II. $x + z = 8$ III. $7x + 3y = 36$

181. 2:   I. $x^2 - 2x - 15 = 0$
      or, $x^2 - 5x + 3x - 15 = 0$
      or, $x(x - 5) + 3(x - 5) = 0$
      or, $(x - 5)(x + 3) = 0$
      $x = 5, -3$
      II. $y^2 + 5y + 6 = 0$
      or, $y^2 + 3y + 2y + 6 = 0$
      or, $y(y + 3) + 2(y + 3) = 0$
      or, $(y + 3)(y + 2) = 0$
      $y = -3, -2$
      ∴ x ≥ y

182. 5:   I. $x^2 - x - 12 = 0$
      or, $x^2 - 4x + 3x - 12 = 0$
      or, $x(x - 4) + 3(x - 4) = 0$
      or, $(x - 4)(x + 3) = 0$
      ∴ x = 4, -3
      II. $y^2 - 3y + 2 = 0$
      or, $y^2 - 2y - y + 2 = 0$

or, $y(y - 2) - 1 (y - 2) = 0$

or, $(y - 2)(y - 1) = 0$

∴ $y = 2, 1$

Hence, no relation can be established.

183. 2; I. $x - \sqrt{169} = 0$

or, $x = \sqrt{169}$

∴ $x = 13$

II. $y^2 - 169 = 0$

or, $y^2 = 169$

or, $y = \sqrt{169}$

∴ $y = \pm 13$

Hence, $x \geq y$

184. 3; I. $x^2 - 32 = 112$

or, $x^2 = 112 + 32 = 144$

or, $x = \sqrt{144}$

∴ $x = \pm 12$

II. $y - \sqrt{256} = 0$

or, $y = \sqrt{256}$

∴ $y = 16$

Hence, $x < y$

185. 5; I. $x^2 - 25 = 0$

or, $x^2 = 25$

or, $x = \sqrt{25}$

∴ $x = \pm 5$

II. $y^2 - 9y + 20 = 0$

or, $y^2 - 5y - 4y + 20 = 0$

or, $y(y - 5) - 4(y - 5) = 0$

or, $(y - 5) (y - 4) = 0$

∴ $y = 5, 4$

Hence, no relation can be established.

186. 3; $3x + 5y = 69$ ... (i)

$9x + 4y = 108$ ... (ii)

$x + z = 12$ ... (iii)

Now, from (i) and (ii), we have

$3x + 5y = 69$ ... (i) × 4

$\underline{9x + 4y = 108}$ ... (ii) × 5

$12x + 20y = 276$

$\underline{45x + 20y = 540}$

$- 33x \qquad = - 264$

On subtracting, we get

or, $33x = 264$

∴ $x = \dfrac{264}{33} = 8$

Putting the value of x in equation (i), we get 3×8
$+ 5y = 69$

or, $5y = 69 - 24 = 45$

∴ $y = \dfrac{45}{5} = 9$

Again, putting the value of x in equation (iii),
we get

x + z = 12
or, z = 12 - 8 = 4
Hence, x < y > z

187. 3; I. $y = \sqrt{9^{3 \times \frac{1}{3}} \times 9^{4 \times \frac{1}{4}}} = \sqrt{9 \times 9} = 9$ ...(I)

II. 2x + 5z = 54 .. (ii)
III. 6x + 4z = 74
or, 3x + 2z = 37 ... (iii)
From equation (ii) × 2 - (iii) × 5, we get
    4x + 10z = 108
    15x + 10z = 185
    ‒   ‒   ‒
    - 11x   = - 77
or, 11x = 77
∴ x = 7
Putting the value of x in equation (ii), we get
2 × 7 + 5z = 54
or, 5z = 40
∴ z = 8
Hence, x < y > z

188. 2; I. 2x + 3y + 4z = 66   ... (i)
II. 2x + y + 3z = 42   ... (ii)
III.3x + 2y + 4z = 63   ... (iii)
From (iii) and (i),
x - y = - 3   ...(iv)
From equation (i) × 3 - equation (ii) × 4
6x + 9y + 12z = 198
8x + 4y + 12z = 168
‒   ‒   ‒   ‒
2x + 5y   = 30   ... (v)
Solving equation (iv) and (v), we get
     x = 5, y = 8
Now, on putting the value of x and y in equation
(i),
     10 + 24 + 4z = 66
     or, 4z = 32

$$\therefore z = \frac{32}{4} = 8$$

Hence, x < y = z

189. 1; I. $(x + z)^3$ = 1728 = 12^3
or, x + z = 12   ...(i)
II. 2x + 3y = 35   ... (ii)
III. x - z = 2   ...(iii)
Now, equation (i) and (ii),
x = 7, z = 5
Putting the value x in question (ii) we have,
2 × 7 + 3y = 35
or, 3y = 35 - 14 = 21

$$or, y = \frac{21}{3} = 7$$

Hence, x = y > z

190. 2; 4x + 5y = 37   ... (i)
x + z = 8   ... (ii)
7x + 3y = 36   ... (iii)
From equation (i) and (iii),
    4x + 5y = 37 ... (i) × 3
    7x + 3y = 36 ... (ii) × 5

or, $12x + 15y = 111$
  $35x + 15y = 180$

  $-23x = -69$
  $\therefore x = 3$
Putting the value of x in equation (i)
  $4 \times 3 + 5y = 37$

or, $y = \dfrac{25}{5} = 5$

Now, putting the value of x in equation (ii)
$z = 5$. Hence, $x < y = z$

Directions (Q. 191-200): in each question two equations numbered I and II are given. You have to solve both the equations and mark the answer.
a) If $x > y$
b) If $x \geq y$
c) If $x < y$
d) If $x \leq y$
e) If $x = y$ or no relation can be established between x and y.
191).
I. $x^2 + 18x + 72 = 0$
II. $y^2 + 6y + 8 = 0$

192).
I. $8x^2 - 22x + 15 = 0$
II. $3y^2 - 13y + 14 = 0$

193).
I. $9x^2 - 26x + 16 = 0$
II. $3y^2 - 16y + 20 = 0$

194).
I. $10x^2 - 17x + 7 = 0$
II. $15y^2 - 19y + 6 = 0$

195).
I. $12x^2 + 19x + 5 = 0$
II. $5y^2 + 16y + 3 = 0$

196).
I. $x^2 - 8x + 15 = 0$
II. $2y^2 - 11y + 14 = 0$
a) x> y
b) x = y or relationship can't be established
c) x ≤ y
d) x ≥ y

e)   x< y

197).
I. x = $\sqrt{2916}$
II. y^2 = 2916
a)   x< y
b)   x> y
c)   x ≤ y
d)   x ≥ y
e)   x = y or relationship can't be established

198).
I. $3x^2$ + 35x + 88 = 0
II. y^2 + 787 = 1316
a)   x> y
b)   x ≤ y
c)   x = y or relationship can't be established
d)   x ≥ y
e)   x< y

199).
I. x^2 − 14x + 45 = 0
II. y^2 − 9y + 20 = 0
a)   x< y
b)   x> y
c)   x ≤ y
d)   x ≥ y
e)   x = y or relationship can't be established

200).
I. x^2 − 54 = 3x
II. y^2 = 36
a)   x> y
b)   x ≤ y
c)   x ≥ y
d)   x> y
e)   x = y or relationship can't be established

191). C)
I. x^2 + 18x + 72 = 0
or, x^2 + 12x + 6x + 72 =0
or, x(x + 12) + 6(x + 12) = 0
x = -9, -12
II. y^2 + 6y + 8 =0
or, y^2 + 4y + 2y + 8 =0

or, y(y + 4) + 2(y + 4) = 0
y = -2, -4
Hence x < y

192). C)

I. $8x^2 - 22x + 15 = 0$

or, $8x^2 - 12x - 10x + 15 = 0$
or, 4x(2x - 3) - 5(2x - 3) = 0
or, (4x - 5) (2x - 3) = 0
x = 5/4, 3/2

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

or, $3y^2 - 6y - 7y + 14 = 0$
or, 3y(y - 2) - 7(y - 2) = 0
or, (3y - 7) (y - 2) = 0
y = 7/3, 2
Hence x < y

193). D)

I. $9x^2 - 26x + 16 = 0$

or, $9x^2 - 18x - 8x + 16 = 0$
or, 9x(x - 2) - 8(x - 2) = 0
or, (9x - 8) (x - 2) = 0
x = 8/9, 2

II. $3y^2 - 16y + 20 = 0$

or, $3y^2 - 6y - 10y + 20 = 0$
or, 3y(y - 2) - 10(y - 2) = 0
or, (3y - 10) (y - 2) = 0
y = 2, 10/3
Hence x ≤ y

194). A)

I. $10x^2 - 17x + 7 = 0$

or, $10x^2 - 10x - 7x + 7 = 0$
or, 10x(x - 1) - 7(x - 1) = 0
or, (10x - 7) (x - 1) = 0
x = 7/10, 1

II. $15y^2 - 19y + 6 = 0$

or, $15y^2 - 10y - 9y + 6 = 0$
or, 5y(3y - 2) - (3y - 2) = 0
or, (3y - 2) (5y - 3) = 0
y = 3/5, 2/3
Hence x > y

195). E)
I. $12x^2 + 19x + 5 = 0$
or, $12x^2 + 4x + 15x + 5 = 0$
or, $4x(3x + 1) + 5(3x + 1) = 0$
or, $(4x + 5)(3x + 1) = 0$
x = -5/4, -1/3
II. $5y^2 + 16y + 3 = 0$
or, $5y^2 + 15y + y + 3 = 0$
or, $5y(y + 3) + 1(y + 3) = 0$
or, $(5y + 1)(y + 3) = 0$
y = -1/5, -3
Hence no relationship can be established.

196). B)
I. $x^2 - 8x + 15 = 0$
or, $x^2 - 5x - 3x + 15 = 0$
or, $x(x - 5) - 3(x - 5) = 0$
or, $(x - 5)(x - 3) = 0$
x = 3, 5
II. $2y^2 - 11y + 14 = 0$
or, $2y^2 - 7y - 4y + 14 = 0$
or, $2y(y - 2) - 7(y - 2) = 0$
or, $(2y - 7)(y - 2) = 0$
y = 7/2, 2
Hence no relationship can be established.

197). D)
I. $x = \sqrt{2916} = 54$
II. $y^2 = 2916$
$y = \pm 54$

hence $x \geq y$

198). C)
I. $3x^2 + 35x + 88 = 0$
or, $3x^2 + 24x + 11x + 88 = 0$
or, $3x(x + 8) + 11(x + 8) = 0$
or, $(3x + 11)(x + 8) = 0$
x = -11/3, -8
II. $y^2 + 787 = 1316$
$y^2 = 1316 - 787 = 529$
$y = \sqrt{529} = \pm 23$

Hence no relationship can be established.

199). D)

I. $x^2 - 14x + 45 = 0$

or, $x^2 - 9x - 5x + 45 = 0$
or, $x(x - 9) - 5(x - 9) = 0$
or, $(x - 5)(x - 9) = 0$
$x = 5, 9$

II. $y^2 - 9y + 20 = 0$

or, $y(y - 5) - 4(y - 5) = 0$

$y = 5, 4$
Hence $x \geq y$

200). E)

I. $x^2 - 54 = 3x$

Or, $x^2 - 9x + 6x - 54 = 0$

Or, $x(x - 9) + 6(x - 9) = 0$
$x = 9, -6$
II. $y^2 = 36$

$y = \pm 6$

Hence no relationship can be established

Directions(201-210): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

201) I. $5x^2 - 18x + 9 = 0$
II. $3y^2 + 5y - 2 = 0$

202) I. $\sqrt{x} - \sqrt{6} / \sqrt{x} = 0$
II. $y^3 - 6^{3/2} = 0$

203) I. $(625)^{1/4}x + \sqrt{1225} = 155$
II. $\sqrt{196}y + 13 = 279$

204) I. $3x^2 - 17x + 24 = 0$
II. $4y^2 - 15y + 14 = 0$

205) I. $x^2 – 2x – \sqrt{5}x + 2\sqrt{5} = 0$
II. $y^2 – \sqrt{3}y – \sqrt{2}y + \sqrt{6} = 0$

206) I. $5x^2 – 23x + 12 = 0$,
II. $5y^2 – 28y + 15 = 0$

207) I. $6x^2 + 5x – 6 = 0$,
II. $3y^2 – 11y + 6 = 0$

208) I. $3x^2 – 5x – 12 = 0$,
II. $2y^2 – 17y + 36 = 0$

209) I. $8x^2 – (4 + 4\sqrt{3})x + 2\sqrt{3} = 0$,
II. $3y^2 – (4 + 3\sqrt{3})y + 4\sqrt{3} = 0$

210) I. $x^2 + (4 + 2\sqrt{2})x + 8\sqrt{2} = 0$
II. $3y^2 – (3 + \sqrt{3})y + \sqrt{3} = 0$

201) A
$5x^2 – 18x + 9 = 0$
$=> 5x^2 – 15x – 3x + 9 = 0$
$=> (5x – 3)(x-3) = 0$
$=> x = 3/5$ or $x = 3$
$3y^2 + 5y – 2 = 0$
$=> 3y^2 + 6y – y -2 = 0$
$=> (3y-1)(y + 2) = 0$
$=> y = 1/3$ or -2

202) E
$\sqrt{x} – \sqrt{6}/\sqrt{x} = 0$
$x – \sqrt{6} = 0$
$x = \sqrt{6}$
$y3 – 6(3/2) = 0$
$=> y^3 = (\sqrt{6})^3$
$=> y = \sqrt{6}$

203) A
$5x + 35 = 155$
$=> 5x = 155 – 35$
$=> x = 120/5 = 24\sqrt{196} \ y + 13 = 279$
$=> 14y = 279 -13$
$=> y = 266/14 = 19$

204) A
$3x^2 -17x + 24 = 0$
$=> 3x^2 – 9x – 8x +24 = 0$
$=> (3x- 8)(x-3) = 0$

=> x= 8/3 or 3

$4y^2 - 15y + 14 = 0$

=> $4y^2 - 8y - 7y + 14 = 0$

=> (4y -7)(y-2)=0

=> y = 7 /4 or 2

205) A

$x^2 - 2x - \sqrt{5} x + 2\sqrt{5} = 0$

=> x(x-2) – $\sqrt{5}$ (x-2)= 0

=> (x-2)(x-$\sqrt{5}$)=0

=> x= 2 0r $\sqrt{5}$

$y^2 - \sqrt{3} y - \sqrt{2} y + \sqrt{6} = 0$

=> y(y-$\sqrt{3}$) – $\sqrt{2}$(y – $\sqrt{3}$) = 0

=> (y – $\sqrt{2}$)(y- $\sqrt{3}$) =0

=> y = $\sqrt{2}$ or $\sqrt{3}$

206) E

x = 3/5, 4

y = 3/5, 5

207) D

x = -3/2, 2/3

y = 2/3, 3

208) B

x = -4/3, 3

y = 4, 9/2

209) B

$8x^2 - (4 + 4\sqrt{3})x + 2\sqrt{3} = 0$

$(8x^2 - 4x) - (4\sqrt{3}x - 2\sqrt{3}) = 0$

4x (2x- 1) – $2\sqrt{3}$ (2x – 1) = 0,

So x = 1/2 (0.5), $2\sqrt{3}$/4 (0.87)

$3y^2 - (4 + 3\sqrt{3})y + 4\sqrt{3} = 0$

$(3y^2 - 4y) - (3\sqrt{3}y - 4\sqrt{3}) = 0$

y (3y – 4) – $\sqrt{3}$ (3y – 4) = 0

So, y = $\sqrt{3}$ (1.732), 4/3

put on number line

0.5………..0.87……..4/3………1.732

210) B

$x^2 + (4 + 2\sqrt{2})x + 8\sqrt{2} = 0$

$(x^2 + 4x) + (2\sqrt{2}x + 8\sqrt{2}) = 0$

x (x + 4) + $2\sqrt{2}$ (x + 4) = 0

So x = -4, -2√2 (-2.8)

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

$(3y^2 - 3y) - (\sqrt{3}y - \sqrt{3}) = 0$

$3y (y - 1) - \sqrt{3} (y - 1) = 0$

So y = 1, √3/3 (0.57)

Directions(211-220): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-

A) If x > y

B) If x < y

C) If x ≥ y

D) If x ≤ y

E)If x = y or relation cannot be established

211) I. $7x^2 - 9x + 2 = 0$
II. $y^2 - 4y + 3 = 0$

212) I. $x^2 + x - 20 = 0$
II. $2y^2 - 19y + 45 = 0$

213) I. 7x + 3y = 26
II. 2x + 17y = -41

214) I. $3x^2 - 20x + 33 = 0$
II. $2y^2 - 11y + 15 = 0$

215) I. $5x^2 + 2x - 3 = 0$
II. $2y^2 + 7y + 6 = 0$

216) I. $35x^2 - 53x + 20 = 0$
II. $56y^2 - 97y + 42 = 0$

217) I. x = 3√4913
II. 13y + 3x = 246

218) I. $x^2 - 5x - 14 = 0$
II. $y^2 + 7y + 10 = 0$

219) I. $x^2 = 64$
II. $2y^2 + 25y + 72 = 0$

220) I. $x^2 - 3481 = 0$
II. $3y^2 = 3\sqrt{216000}y$

211) D
I. $7x^2 - 7x - 2x + 2 = 0$
or, 7x(x - 1) - 2(x - 1) = 0
(7x - 2) (x - 1) = 0
or, x =2/7 , 1

II. $y^2 - y - 3y + 3 = 0$
or, $y(y - 1) - 3(y - 1) = 0$
or, $(y - 3)(y - 1) = 0$
$y = 1, 3$
$x <= y$

212) B
I. $x^2 + x - 20 = 0$
or, $x^2 + 5x - 4x - 20 = 0$
or, $x(x + 5) - 4(x + 5) = 0$
or, $(x - 4)(x + 5) = 0$
$x = 4, -5$
II. $2y^2 - 10y - 9y + 45 = 0$
or, $2y(y - 5) - 9(y - 5) = 0$
or, $(y - 5)(2y - 9) = 0$
$y = 5, 9/2$

213) A
Eqn (I) $\times 2$
Eqn (II) $\times 7$
$14x + 6y = 52$
$14x + 119y = -287$
$-113y = 339$
$y = -3$ and $x = 5$, ie $x > y$

214) C
I. $3x^2 - 9x - 11x + 33 = 0$
or, $3x(x - 3) - 11(x - 3) = 0$
or, $(3x - 11)(x - 3) = 0$
$x = 3, 11/3$
II. $2y^2 - 6y - 5y + 15 = 0$
or, $2y(y - 3) - 5(y - 3) = 0$
or, $(y - 3)(2y - 5) = 0$
$y = 3, 5/2$

215) A
$5x^2 + 5x - 3x - 3 = 0$
or $5x(x + 1) - 3(x + 1) = 0$
or $(5x - 3)(x + 1) = 0$
$x = 3/5, -1$ II. $2y^2 + 4x + 3y + 6 = 0$
or $2y(y + 2) + 3(y + 2) = 0$
or $(2y + 3)(y + 2) = 0$
$y = -3/2, -2$

216) B

I. $35x^2 – 28x – 25x + 20 = 0$
or $7x(5x – 4) – 5(5x – 4) = 0$
or $(7x – 5) (5x – 4) = 0$
x 5/7 , 4/5 II. $56y^2 – 48y – 49y + 42 = 0$
or $8y(7y – 6) – 7(7y – 6) = 0$
or $(8y – 7) (7y – 6) = 0$
y = 7/8 , 6/7

217) A
I. $x = 3\sqrt{4913}$
x = 17 II. $13y = 246 – 3x$
or $13y = 246 – 51 = 195$
y = 15
x > y

218) C
I. $x^2 – 7x + 2x – 14 = 0$
or $x(x – 7) + 2(x – 7) = 0$
$(x + 2) (x – 7) = 0$
x = -2, 7 II. $y^2 + 5y + 2y + 10 = 0$
or $y(y + 5) + 2(y + 5) = 0$
or $(y + 2) (y + 5) = 0$
y = -2, -5
x ≥ y

219) E
I. $x^2 = 64$
x = ±8 II. $2y^2 + 9y + 16y + 72 = 0$
or, $y(2y + 9) + 8(2y + 9) = 0$
or, $(y + 8) (2y + 9) = 0$
y = -8 , -9/2
no relation between x and y.

220) E
I. $x^2 = 3481$
x = ± 59 II. $3y^2 = 3 \sqrt{216000}$
$3y2 = 60y$
y = ± 20
No relation

Directions: In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-
A) If x > y
B) If x < y
C) If x ≥ y

D) If x ≤ y
E) If x = y or relation cannot be established

221) I. $3x^2 + 10x - 8 = 0$,
II. $3y^2 - 20y + 12 = 0$

222) I. $4x^2 - 23x + 15 = 0$,
II. $4y^2 + 9y - 9 = 0$

223) I. $5x^2 - 13x - 6 = 0$,
II. $5y^2 - 18y - 8 = 0$

224) I. $2x^2 + 7x - 4 = 0$,
II. $3y^2 - 19y + 20 = 0$

225) I. $2x^2 - 3x - 9 = 0$,
II. $3y^2 + 13y + 14 = 0$

226) I. $3x^2 - x - 10 = 0$,
II. $3y^2 - 11y + 6 = 0$

227) I. $3x^2 - (3 - 2\sqrt{2})x - 2\sqrt{2} = 0$
II. $3y^2 - (1 + 3\sqrt{3})y + \sqrt{3} = 0$

228) I. $x^2 + (4 + \sqrt{2})x + 4\sqrt{2} = 0$
II. $5y^2 + (2 + 5\sqrt{2})y + 2\sqrt{2} = 0$

229) I. $6x^2 - (3 + 4\sqrt{3})x + 2\sqrt{3} = 0$,
II. $3y^2 - (6 + 2\sqrt{3})y + 4\sqrt{3} = 0$

230) I. $8x^2 + (4 + 2\sqrt{2})x + \sqrt{2} = 0$
II. $y^2 - (3 + \sqrt{3})y + 3\sqrt{3} = 0$

221) D
$3x^2 + 10x - 8 = 0$
$3x^2 + 12x - 2x + 8 = 0$
Gives x = -4, 2/3
$3y^2 - 20y + 12 = 0$
$3y^2 - 18y - 2y + 12 = 0$
Gives y = 2/3, 6

222) C
$4x^2 - 23x + 15 = 0$
$4x^2 - 20x - 3x + 15 = 0$
Gives x = 3/4, 5
$4y^2 + 9y - 9 = 0$
$4y^2 + 12y - 3y - 9 = 0$
Gives y = -3, 3/4

223) E
x = -2/5, 3
y = -2/5, 4

224) C
$2x^2 + 7x - 4 = 0$
Gives x = -4, 1/2
$3y^2 - 19y + 20 = 0$
Gives y= 4/3, 5

225) A
$2x^2 - 3x - 9 = 0$
Gives x = -3/2, 3
$3y^2 + 13y + 14 = 0$
Gives y= -7/3, -2

226) E
$3x^2 - x - 10 = 0$
Gives x = -5/3, 2
$3y^2 - 11y + 6 = 0$
Gives y = 2/3, 3

227) E
$3x^2 - (3 - 2\sqrt2)x - 2\sqrt2 = 0$
$(3x^2 - 3x) + (2\sqrt2x - 2\sqrt2) = 0$
3x (x – 1) + 2√2 (x – 1) = 0
So x = 1, -2√2/3 (-0.9)
$3y^2 - (1 + 3\sqrt3)y + \sqrt3 = 0$
$(3y^2 - y) - (3\sqrt3y - \sqrt3) = 0$
y (3y – 1) – √3 (3y – 1) = 0
So, y = 1/3, √3 (1.7)

228) D
$x^2 + (4 + \sqrt2)x + 4\sqrt2 = 0$
$(x^2 + 4x) + (\sqrt2x + 4\sqrt2) = 0$
x (x + 4) + √2 (x + 4) = 0
So x = -4, -√2 (-1.4)
$5y^2 + (2 + 5\sqrt2)y + 2\sqrt2 = 0$
$(5y^2 + 2y) + (5\sqrt2y + 2\sqrt2) = 0$
y (5y + 2) + √2 (5y + 2) = 0
So, y = -2/5 (-0.4), -√2 (-1.4)

229) D
$6x^2 - (3 + 4\sqrt3)x + 2\sqrt3 = 0$
$(6x^2 - 3x) - (4\sqrt3x - 2\sqrt3) = 0$

3x (2x- 1) – 2√3 (2x – 1) = 0,
So x = 1/2, 2√3/3 (1.15)
$3y^2$ – (6 + 2√3)y + 4√3 = 0
$(3y^2$ – 6y) – (2√3y – 4√3) = 0
3y (y – 2) – 2√3 (y – 2) = 0
So, y = 2, 2√3/3

230) B
$8x^2$ + (4 + 2√2)x + √2 = 0
$(8x^2$ + 4x) + (2√2x + √2) = 0
4x (2x + 1) + √2 (2x + 1) = 0
So x = -1/2 (-0.5), -√2/4 (-0.35)
y^2 – (3 + √3)y + 3√3 = 0
$(y^2$ – 3y) – (√3y – 3√3) = 0
y (y – 3) – √3 (y – 3) = 0
So y = 3, √3 (1.73)

Directions (231-240): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

231) I. $3x^2$ – 4x – 15 = 0,
II. $3y^2$ + 11y + 10 = 0

232) I. $3x^2$ + 17x + 24 = 0,
II. $3y^2$ – 4y – 32 = 0

233) I. $3x^2$ – 2x – 16 = 0,
II. $3y^2$ – 20y + 32 = 0

234)I. $2x^2$ + 5x – 12 = 0,
II. $4y^2$ – 19y – 30 = 0

235) I. $2x^2$ – 17x + 36 = 0,
II. $3y^2$ – 2y – 8 = 0

236) I. $3x^2$ + 19x + 30 = 0,
II. $2y^2$ + 3y – 2 = 0

237) I. $5x^2$ + 11x – 12 = 0,
II. $3y^2$ + 7y – 6 = 0

238) I. $3x^2$ + x – 10 = 0,
II. $2y^2$ + 11y + 14 = 0

239) I. $3x^2 + 19x + 30 = 0$,
II. $2y^2 – 3y – 20 = 0$

240) I. $2x^2 – x – 36 = 0$,
II. $2y^2 – 21y + 54 = 0$

231) C
$3x^2 – 4x – 15 = 0$
$3x^2 – 9x + 5x – 15 = 0$
Gives x = -5/3, 3
$3y^2 + 11y + 10 = 0$
$3y^2 + 6y + 5y + 10 = 0$
Gives y = -2. -5/3

232) D
$3x^2 + 17x + 24 = 0$
$3x^2 + 17x + 24 = 0$
Gives x = -3, -8/3
$3y^2 – 4y – 32 = 0$
$3y^2 – 12y + 8y – 32 = 0$
Gives y = -8/3, 4

233) D
$3x^2 – 2x – 16 = 0$
$3x^2 – 2x – 16 = 0$
Gives x = -2, 8/3
$3y^2 – 20y + 32 = 0$
$3y^2 – 20y + 32 = 0$
Gives y = 8/3, 4

234) C
$2x^2 + 5x – 12 = 0$
$2x^2 + 8x – 3x – 12 = 0$
Gives x = -4, 3/2
$4y^2 – 19y – 30 = 0$
$4y^2 – 24y + 5y – 30 = 0$
Gives y= -5/4, 6

235) A
$2x^2 – 17x + 36 = 0$
$2x^2 – 8x – 9x + 36 = 0$
Gives x = 4, 9/2
$3y^2 – 2y – 8 = 0$
$3y^2 – 6y + 4y – 8 = 0$
Gives y= -4/3, 2

236) B
$3x^2 + 19x + 30 = 0$
$3x^2 + 9x + 10x + 30 = 0$
Gives x = -10/3, -3
$2y^2 + 3y - 2 = 0$
$2y^2 + 4y - y - 2 = 0$
Gives y = -2, **½**

237) E
$5x^2 + 11x - 12 = 0$
$5x^2 + 15x - 4x - 12 = 0$
Gives x = -3, 4/5
$3y^2 + 7y - 6 = 0$
$3y^2 + 9y - 2y - 6 = 0$
So y = -3, 2/3

238) C
$3x^2 + x - 10 = 0$
$3x^2 + 6x - 5x - 10 = 0$
Gives x = -2, 5/3
$2y^2 + 11y + 14 = 0$
$2y^2 + 4y + 7y + 14 = 0$
So y = -7/2, -2

239) B
$3x^2 + 19x + 30 = 0$
$3x^2 + 9x + 10x + 30 = 0$
Gives x = -3, -10/3
$2y^2 - 3y - 20 = 0$
$2y^2 - 8y + 5y - 20 = 0$
So y = -5/2, 4

240) D
$2x^2 - x - 36 = 0$
$2x^2 + 8x - 9x - 36 = 0$
Gives x = -4, 9/2
$2y^2 - 21y + 54 = 0$
$2y^2 - 12y - 9y + 54 = 0$
So y = 9/2, 6

Directions(241-250): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-
A) x> y
B) x < y
C) x ≥ y

D) x ≤ y

E) x = y or relationship cannot be determined

241) I. $4x^2 – 9x – 9 = 0$,
II. $4y^2 + 11y + 6 = 0$

242) I. $3x^2 – 2x – 21 = 0$,
II. $6y^2 + 17y + 7 = 0$

243) I. $3x^2 – 13x + 14 = 0$,
II. $3y^2 – 20y + 32 = 0$

244) I. $3x^2 – 2x – 16 = 0$,
II. $3y^2 – 20y + 32 = 0$

245)I. $5x^2 – 16x – 16 = 0$,
II. $3y^2 – 14y + 8 = 0$

246) I. $4x^2 – 17x + 18 = 0$,
II. $3y^2 – 2y – 8 = 0$

247) I. $2x^2 – 5x – 12 = 0$,
II. $3y^2 – 17y + 10 = 0$

248) I. $3x^2 + 2x – 16 = 0$,
II. $y^2 + 11y + 24 = 0$

249) I. $3x^2 + 10x + 8 = 0$,
II. $3y^2 – 11y – 20 = 0$

250) I. $4x^2 + 23x + 15 = 0$,
II. $3y^2 – 19y – 14 = 0$

241) C
$4x^2 – 9x – 9 = 0$
$4x^2 – 12x + 3x – 9 = 0$
Gives x = -3/4, 3
$4y^2 + 11y + 6 = 0$
$4y^2 + 8y + 3y + 6 = 0$
Gives y = -2, -3/4
Put all values on number line and analyze the relationship
-2…. -3/4….3

242) E
$3x^2 – 2x – 21 = 0$
$3x^2 – 9x + 7x – 21 = 0$
Gives x = -7/3, 3
$6y^2 + 17y + 7 = 0$

$6y^2 + 3y + 14y + 7 = 0$
Gives y = -7/3, -1/2

243) B
$3x^2 - 13x + 14 = 0$
$3x^2 - 6x - 7x + 14 = 0$
Gives x = 2, 7/3
$3y^2 - 20y + 32 = 0$
$3y^2 - 12y - 8y + 32 = 0$
Gives y = 8/3, 4

244) D
$3x^2 - 2x - 16 = 0$
$3x^2 - + 6x - 8x - 16 = 0$
Gives x = -2, 8/3
$3y^2 - 20y + 32 = 0$
$3y^2 - 12y - 8y + 32 = 0$
Gives y = 8/3, 4

245) E
$5x^2 - 16x - 16 = 0$
$5x^2 - 20x + 4x - 16 = 0$
Gives x = -4/5, 4
$3y^2 - 14y + 8 = 0$
$3y^2 - 12y - 2y + 8 = 0$
Gives y= 2/3, 4

246) C
$4x^2 - 17x + 18 = 0$
$4x^2 - 8x - 9x + 18 = 0$
Gives x = 2, 9/4
$3y^2 - 2y - 8 = 0$
$3y^2 - 6y + 4y - 8 = 0$
Gives y = -4/3, 2

247) E
$2x^2 - 5x - 12 = 0$
$2x^2 - 8x + 3x - 12 = 0$
Gives x = -3/2, 4
$3y^2 - 17y + 10 = 0$
$3y^2 - 15y - 2y + 10 = 0$
So y = 2/3, 5

248) A

$3x^2 + 2x – 16 = 0$
$3x^2 – 6x + 8x – 16 = 0$
Gives x = -8/3, 2
$y^2 + 11y + 24 = 0$
$y^2 + 8y + 3y + 24 = 0$
So y = -8, -3

249) D
$3x^2 + 10x + 8 = 0$
$3x^2 + 6x + 4x + 8 = 0$
Gives x = -2, -4/3
$3y^2 – 11y – 20 = 0$
$3y^2 – 15y + 4y – 20 = 0$
So y = -4/3, 5

250) B
$4x^2 + 23x + 15 = 0$
$4x^2 + 20x + 3x + 15 = 0$
Gives x = -5, -3/4
$3y^2 – 19y – 14 = 0$
$3y^2 – 21y + 2y – 14 = 0$
So y = -2/3, 7

Directions(251-260): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

251) I. $3x^2 + 8x + 4 = 0$,
II. $2y^2 – 7y – 4 = 0$

252) I. $2x^2 – 13x + 20 = 0$,
II. $3y^2 + 4y – 20 = 0$

253) I. $3x^2 + x – 14 = 0$,
II. $3y^2 – 5y – 12 = 0$

254) I. $3x^2 – 2x – 21 = 0$,
II. $3y^2 + 19y + 28 = 0$

255) I. $4x^2 + 23x + 28 = 0$,
II. $4y^2 – y – 14 = 0$

256) I. $4x^2 + x – 18 = 0$,
II. $4y^2 – 3y – 27 = 0$

257) I. $3x^2 – 16x + 21 = 0$,
II. $2y^2 – y – 6 = 0$

258) I. $3x^2 + x – 2 = 0$,
II. $4y^2 + 13y + 10 = 0$

259) I. $4x^2 + 29x + 45 = 0$,
II. $4y^2 – 3y – 27 = 0$

260) I. $3x^2 – 22x + 35 = 0$,
II. $3y^2 – 16y + 21 = 0$

251) B
$3x^2 + 8x + 4 = 0$
$3x^2 + 6x + 2x + 4 = 0$
Gives x = -2/3, -2
$2y^2 – 7y – 4 = 0$
$2y^2 + y – 8y – 4 = 0$
Gives y = 4, -1/2
Put all values on number line and analyze the relationship
-2…. -2/3….-1/2….. 4

252) A
$2x^2 – 13x + 20 = 0$
$2x^2 – 8x – 5x + 20 = 0$
Gives x = 5/2, 4
$3y^2 + 4y – 20 = 0$
$3y^2 – 6y + 10y – 20 = 0$
Gives y = 2, -10/3

253) E
$3x^2 + x – 14 = 0$
$3x^2 – 6x + 7x – 14 = 0$
Gives x = 2, -7/3
$3y^2 – 5y – 12 = 0$
$3y^2 – 9y + 4y – 12 = 0$
Gives y = -4/3, 3

254) C
$3x^2 – 2x – 21 = 0$
$3x^2 – 9x + 7x – 21 = 0$
Gives x = -7/3, 3
$3y^2 + 19y + 28 = 0$

$3y^2 + 12y + 7y + 28 = 0$

Gives y= -7/3, -4

255) D

$4x^2 + 23x + 28 = 0$

$4x^2 + 16x + 7x + 28 = 0$

Gives x = -4, -7/4

$4y^2 - y - 14 = 0$

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

Gives y= -7/4, 2

256) E

$4x^2 + x - 18 = 0$

$4x^2 - 8x + 9x - 18 = 0$

Gives x = -9/4, 2

$4y^2 - 3y - 27 = 0$

$4y^2 - 12y + 9y - 27 = 0$

Gives y = -9/4, 3

257) A

$3x^2 - 16x + 21 = 0$

$3x^2 - 9x - 7x + 21 = 0$

Gives x = 3, 7/3

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

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

So y = -3/2, 2

258) A

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

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

Gives x = -1/3, 2

$4y^2 + 13y + 10 = 0$

$4y^2 + 8y + 5y + 10 = 0$

So y = -2, -5/4

259) D

$4x^2 + 29x + 45 = 0$

$4x^2 + 20x + 9x + 45 = 0$

Gives x = -5, -9/4

$4y^2 - 3y - 27 = 0$

$4y^2 - 12y + 9y - 27 = 0$

So y = -9/4, 3

260) E

$3x^2 - 22x + 35 = 0$
$3x^2 - 15x - 7x + 35 = 0$
Gives x = 7/3, 5
$3y^2 - 16y + 21 = 0$
$3y^2 - 9y - 7y + 21 = 0$
So y = 7/3, 3

Directions(261-270): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

261) I. $3x^2 - 13x - 10 = 0$,
II. $2y^2 + 11y + 12 = 0$

262) I. $3x^2 - 8x - 16 = 0$,
II. $3y^2 - 26y + 56 = 0$

263) I. $3x^2 + 10x - 8 = 0$,
II. $3y^2 + 10y + 8 = 0$

264) I. $3x^2 - 25x + 52 = 0$,
II. $2y^2 - 17y + 36 = 0$

265) I. $3x^2 + 7x - 6 = 0$,
II. $4y^2 - 11y + 6 = 0$

266) I. $2x^2 - 3x - 14 = 0$,
II. $3y^2 + 16y + 20 = 0$

267) I. $7x^2 + 19x - 6 = 0$,
II. $3y^2 - 8y - 16 = 0$

268) I. $8x^2 + (4 + 2\sqrt{2})x + \sqrt{2} = 0$
II. $3y^2 - (6 + 2\sqrt{3})y + 4\sqrt{3} = 0$

269) I. $3x^2 - (3 - 2\sqrt{2})x - 2\sqrt{2} = 0$
II. $5y^2 + (2 + 5\sqrt{2})y + 2\sqrt{2} = 0$

270) I. $6x^2 - (3 + 4\sqrt{3})x + 2\sqrt{3} = 0$,
II. $y^2 - (3 + \sqrt{3})y + 3\sqrt{3} = 0$

261) A
$3x^2 - 13x - 10 = 0$
$3x^2 - 15x + 2x - 10 = 0$
Gives x = -2/3, 5

$2y^2 + 11y + 12 = 0$

$2y^2 + 8y + 3y + 12 = 0$

Gives y = -4, -3/2

Put all values on number line and analyze the relationship

-4…. -3/2….-2/3….. 5

262) D

$3x^2 – 8x – 16 = 0$

$3x^2 – 12x + 4x – 16 = 0$

Gives x = -4/3, 4

$3y^2 – 26y + 56 = 0$

$3y^2 – 26y + 56 = 0$

Gives y = 4, 14/3

263) E

$3x^2 + 10x – 8 = 0$

$3x^2 + 12x – 2x – 8 = 0$

Gives x = -2, 2/3

$3y^2 + 10y + 8 = 0$

$3y^2 + 6y + 4y + 8 = 0$

Gives y = -2, -4/3

264) E

$3x^2 – 25x + 52 = 0$

$3x^2 – 12x – 13x + 52 = 0$

Gives x = 4, 13/3

$2y^2 – 17y + 36 = 0$

$2y^2 – 8y – 9y + 36 = 0$

Gives y= 4, 9/2

265) B

$3x^2 + 7x – 6 = 0$

$3x^2 + 9x – 2x – 6 = 0$

Gives x = -3, 2/3

$4y^2 – 11y + 6 = 0$

$4y^2 – 8y – 3y + 6 = 0$

Gives y= 3/4, 2

266) C

$2x^2 – 3x – 14 = 0$

$2x^2 + 4x – 7x – 14 = 0$

Gives x = -2, 7/2

$3y^2 + 16y + 20 = 0$

$3y^2 + 6y + 10y + 20 = 0$

Gives y = -10/3, -2

267) E

$7x^2 + 19x – 6 = 0$

$7x^2 + 21x – 2x – 6 = 0$

Gives x = -3, 2/7

$3y^2 – 8y – 16 = 0$

$3y^2 – 12y + 4y – 16 = 0$

So y = -4/3, 4

268) B

$8x^2 + (4 + 2\sqrt{2})x + \sqrt{2} = 0$

$(8x^2 + 4x) + (2\sqrt{2}x + \sqrt{2}) = 0$

$4x (2x + 1) + \sqrt{2} (2x + 1) = 0$

So x = -1/2 (-0.5), -√2/4 (-0.35)

$3y^2 – (6 + 2\sqrt{3})y + 4\sqrt{3} = 0$

$(3y^2 – 6y) – (2\sqrt{3}y – 4\sqrt{3}) = 0$

$3y (y – 2) – 2\sqrt{3} (y – 2) = 0$

So, y = 2, 2√3/3

269) E

$3x^2 – (3 – 2\sqrt{2})x – 3\sqrt{2} = 0$

$(3x^2 – 3x) + (2\sqrt{2}x – 2\sqrt{2}) = 0$

$3x (x – 1) + 2\sqrt{2} (x – 1) = 0$

So x = 1, -2√2/3 (-0.9)

$5y^2 + (2 + 5\sqrt{2})y + 2\sqrt{2} = 0$

$(5y^2 + 2y) + (5\sqrt{2}y + 2\sqrt{2}) = 0$

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

So, y = -2/5 (-0.4), -√2 (-1.4)

270) B

$6x^2 – (3 + 4\sqrt{3})x + 2\sqrt{3} = 0$

$(6x^2 – 3x) – (4\sqrt{3}x – 2\sqrt{3}) = 0$

$3x (2x- 1) – 2\sqrt{3} (x – 2) = 0$,

So x = 1/2, 2√3/3 (1.15)

$y^2 – (3 + \sqrt{3})y + 3\sqrt{3} = 0$

$(y^2 – 3y) – (\sqrt{3}y – 3\sqrt{3}) = 0$

$y (y – 3) – \sqrt{3} (y – 3) = 0$

So x = 3, √3 (1.73)

Directions: In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

271) I. $3x^2 - 25x + 52 = 0$,
II. $3y^2 - 16y + 16 = 0$

272) I. $3x^2 - 8x - 16 = 0$,
II. $2y^2 - 5y - 12 = 0$

273) I. $3x^2 + 22x + 24 = 0$,
II. $2y^2 + 7y - 4 = 0$

274) I. $2x^2 - 9x + 4 = 0$,
II. $2y^2 - 17y + 36 = 0$

275) I. $3x^2 + 7x - 6 = 0$,
II. $3y^2 - 19y + 20 = 0$

276) I. $3x^2 - 4x - 4 = 0$,
II. $3y^2 + 16y + 20 = 0$

277) I. $7x^2 + 19x - 6 = 0$,
II. $2y^2 + 13y + 21 = 0$

278) I. $x^2 + (4 + \sqrt{2})x + 4\sqrt{2} = 0$
II. $3y^2 - (1 + 3\sqrt{3})y + \sqrt{3} = 0$

279) I. $3x^2 + (3 + 2\sqrt{2})x + 2\sqrt{2} = 0$
II. $5y^2 + (2 + 5\sqrt{2})y + 2\sqrt{2} = 0$

280) I. $4x^2 - 12x + 5 = 0$,
II. $2y^2 + 3y - 20 = 0$

271) C
$3x^2 - 25x + 52 = 0$
$3x^2 - 12x - 13x + 52 = 0$
Gives x = 4, 13/3
$3y^2 - 16y + 16 = 0$
$3y^2 - 14y - 4y + 16 = 0$
Gives y = 4, 4/3

272) E
$3x^2 - 8x - 16 = 0$
$3x^2 - 12x + 4x - 16 = 0$
Gives x = -4/3, 4
$2y^2 - 5y - 12 = 0$
$2y^2 - 8y + 3y - 12 = 0$
Gives y = -3/2, 4

273) E
$3x^2 + 22 x + 24 = 0$
$3x^2 + 18x + 4x + 24 = 0$

So x = -4/3, -6
$2y^2 + 7y - 4 = 0$
$2y^2 + 8y - y - 4 = 0$
Gives y = -4, **½**

274) D
$2x^2 - 9x + 4 = 0$
$2x^2 - 8x - x + 4 = 0$
So x = 4 , 1/2
$2y^2 - 17y + 36 = 0$
$2y^2 - 8y - 9y + 36 = 0$
Gives y= 4, 9/2

275) B
$3x^2 + 7x - 6 = 0$
$3x^2 + 9x - 2x - 6 = 0$
Gives x = -3, 2/3
$3y^2 - 19y + 20 = 0$
$3y^2 - 15y - 4y + 20 = 0$
Gives y = 4/3, 5

276) A
$3x^2 - 4x - 4 = 0$
$3x^2 - 6x + 2x - 4 = 0$
Gives x = -2/3, 2
$3y^2 + 16y + 20 = 0$
$3y^2 + 6y + 10y + 20 = 0$
Gives y = -10/3, -2

277) C
$7x^2 + 19x - 6 = 0$
$7x^2 + 21x - 2x - 6 = 0$
Gives x = -3, 2/7
$2y^2 + 13y + 21 = 0$
$2y^2 + 6y + 7y + 21 = 0$
So y = -7/2, -3

278) B
$x^2 + (4 + \sqrt{2})x + 4\sqrt{2} = 0$
$(x^2 + 4x) + (\sqrt{2}x + 4\sqrt{2}) = 0$
$x (x + 4) + \sqrt{2} (x + 4) = 0$
So x = -4, $-\sqrt{2}$ (-1.4)
$3y^2 - (1 + 3\sqrt{3})y + \sqrt{3} = 0$
$(3y^2 - y) - (3\sqrt{3}y - \sqrt{3}) = 0$

y (3y – 1) – √3 (3y – 1) = 0
So, y = 1/3, √3 (1.7)

279) E
$3x^2 + (3 + 2\sqrt{2})x + 3\sqrt{2} = 0$
$(3x^2 + 3x) + (2\sqrt{2}x + 2\sqrt{2}) = 0$
3x (x + 1) + 2√2 (x + 1) = 0
So x = -1, -2√2/3
$5y^2 + (2 + 5\sqrt{2})y + 2\sqrt{2} = 0$
$(5y^2 + 2y) + (5\sqrt{2}y + 2\sqrt{2}) = 0$
y (5y + 2) + √2 (5y + 2) = 0
So, y = -2/5, -√2

280) E
$4x^2 – 12x + 5 = 0$
$4x^2 – 2x – 10x + 5 = 0$
x = 1/2, 5/2
$2y^2 + 3y – 20 = 0$
$2y^2 + 8y – 5y – 20 = 0$
So y = -3, 5/2

Directions(281-290): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

281) I. $4x^2 + 5x – 6 = 0$,
II. $2y^2 + 11y + 12 = 0$

282) I. $12x^2 – 49x + 30 = 0$,
II. $6y^2 – 35y + 50 = 0$

283) I. $4x^2 + 13x + 10 = 0$,
II. $4y^2 – 7y – 15 = 0$

284) I. $12x^2 – 5x – 3 = 0$,
II. $6y^2 + y – 2 = 0$

285) I. $3x^2 + 7x – 6 = 0$,
II. $3y^2 – 11y + 6 = 0$

286) I. $5x^2 – 36x – 32 = 0$,
II. $3y^2 + 16y + 20 = 0$

287) I. $3x^2 – (6 + 2\sqrt{3})x + 4\sqrt{3} = 0$,
II. $3y^2 – (2 + 3\sqrt{3})y + 2\sqrt{3} = 0$

288) I. $2x^2 + (4 + \sqrt{2})x + 2\sqrt{2} = 0$
II. $y^2 – (1 + 3\sqrt{3})y + 3\sqrt{3} = 0$

289) I. $x^2 + (3 + 2\sqrt{2})x + 6\sqrt{2} = 0$
II. $5y^2 – (1 + 5\sqrt{2})y + \sqrt{2} = 0$

290)I. $2x^2 + (4 + 2\sqrt{6})x + 4\sqrt{6} = 0$
II. $5y^2 + (10 + \sqrt{6})y + 2\sqrt{6} = 0$

281) E
$4x^2 + 5x – 6 = 0$
$4x^2 + 8x – 3x – 6 = 0$
Gives x = -2, 3/4
$2y^2 + 11y + 12 = 0$
$2y^2 + 8y + 3y + 12 = 0$
Gives y = -4, -3/2

282) E
$12x^2 – 49x + 30 = 0$
$12x^2 – 9x – 40x + 30 = 0$
Gives x = 3/4, 10/3
$6y^2 – 35y + 50 = 0$
$6y^2 – 15y – 20y + 50 = 0$
Gives y = 5/2, 10/3

283) D
$4x^2 + 13x + 10 = 0$
$4x^2 + 8x + 5x + 10 = 0$
Gives x = -2, -5/4
$4y^2 – 7y – 15 = 0$
$4y^2 – 12y + 5y – 15 = 0$
Gives y = -5/4, 3

284) E
$12x^2 – 5x – 3 = 0$
$12x^2 + 4x – 9x – 3 = 0$
Gives x = -1/3, 3/4
$6y^2 + y – 2 = 0$
$6y^2 – 3y + 4y – 2 = 0$
Gives y= -2/3, **½**

285) D
$3x^2 + 7x – 6 = 0$
$3x^2 + 9x – 2x – 6 = 0$

Gives x = -3, 2/3
$3y^2 - 11y + 6 = 0$
$3y^2 - 9y - 2y + 6 = 0$
Gives y = 2/3, 3

286) A
$5x^2 - 36x - 32 = 0$
$5x^2 + 4x - 40x - 32 = 0$
Gives x = -4/5, 8
$3y^2 + 16y + 20 = 0$
$3y^2 + 6y + 10y + 20 = 0$
Gives y = -10/3, -2

287) E
$3x^2 - (6 + 2\sqrt{3})x + 4\sqrt{3} = 0$
$(3x^2 - 6x) - (2\sqrt{3}x - 4\sqrt{3}) = 0$
$3x (x- 2) - 2\sqrt{3} (x - 2) = 0$,
So x = 2, $2\sqrt{3}/3$ (1.15)
$3y^2 - (2 + 3\sqrt{3})y + 2\sqrt{3} = 0$
$(3y^2 - 2y) - (3\sqrt{3}y - 2\sqrt{3}) = 0$
y (3y - 2) - $\sqrt{3}$ (3y - 2) = 0
So x = 2/3, $\sqrt{3}$ (1.73)

288) B
$2x^2 + (4 + \sqrt{2})x + 2\sqrt{2} = 0$
$(2x^2 + 4x) + (\sqrt{2}x + 2\sqrt{2}) = 0$
$2x (x + 2) + \sqrt{2} (x + 2) = 0$
So x = -2, $-\sqrt{2}/2$ (-0.7)
$y^2 - (1 + 3\sqrt{3})y + 3\sqrt{3} = 0$
$(y^2 - y) - (3\sqrt{3}y - 3\sqrt{3}) = 0$
y (y - 1) - $3\sqrt{3}$ (y - 1) = 0
So, y = 1, $3\sqrt{3}$ (5.2)

289) B
$x^2 + (3 + 2\sqrt{2})x + 6\sqrt{2} = 0$
$(x^2 + 3x) + (2\sqrt{2}x + 6\sqrt{2}) = 0$
x (x + 3) + $2\sqrt{2}$ (x + 3) = 0
So x = -3, $-2\sqrt{2}$
$5y^2 - (1 + 5\sqrt{2})y + \sqrt{2} = 0$
$(5y^2 - y) - (5\sqrt{2}y - \sqrt{2}) = 0$
y (5y - 1) - $3\sqrt{2}$ (5y - 1) = 0
So, y = 1/5, $3\sqrt{2}$

290) D

$2x^2 + (4 + 2\sqrt{6})x + 4\sqrt{6} = 0$
$(2x^2 + 4x) + (2\sqrt{6}x + 4\sqrt{6}) = 0$
$2x(x + 2) + 2\sqrt{6}(x + 2) = 0$
So x = -2, -$\sqrt{6}$
$5y^2 + (10 + \sqrt{6})y + 2\sqrt{6} = 0$
$(5y^2 + 10y) + (\sqrt{6}y + 2\sqrt{6}) = 0$
$5y(y + 2) + \sqrt{6}(y + 2) = 0$
So, y = -2, -$\sqrt{6}$/5

Directions(291-300): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

291) I. $3x^2 + 10x - 8 = 0$,
II. $2y^2 - 13y + 6 = 0$

292) I. $16x^2 + 8x - 15 = 0$,
II. $4y^2 + 29y + 30 = 0$

293) I. $3x^2 - 25x + 52 = 0$,
II. $15y^2 - 38y - 40 = 0$

294) I. $12x^2 - 5x - 3 = 0$,
II. $4y^2 - 11y + 6 = 0$

295) I. $3x^2 + 7x - 6 = 0$,
II. $6y^2 - y - 2 = 0$

296) I. $4x^2 + 15x + 9 = 0$,
II. $4y^2 - 13y - 12 = 0$

297) I. $2x^2 - (6 + \sqrt{3})x + 3\sqrt{3} = 0$,
II. $3y^2 - (9 + \sqrt{3})y + 3\sqrt{3} = 0$

298) I. $2x^2 - (2 + 2\sqrt{5})x + 2\sqrt{5} = 0$
II. $4y^2 - (6 + 2\sqrt{2})y + 3\sqrt{2} = 0$

299) I. $2x^2 - 15\sqrt{3}x + 84 = 0$,
II. $3y^2 - 2y - 8 = 0$

300) I. $16x^2 + 20x + 6 = 0$
II. $10y^2 + 38y + 24 = 0$

291) E

$3x^2 + 10x - 8 = 0$

$3x^2 + 12x - 2x - 8 = 0$

Gives x = -2, 2/3

$2y^2 - 13y + 6 = 0$

$2y^2 - 12y - y + 6 = 0$

Gives y = 1/2, 6

292) C

$16x^2 + 8x - 15 = 0$

$16x^2 + 20x - 12x - 15 = 0$

Gives x = -5/4, 3/4

$4y^2 + 29y + 30 = 0$

$4y^2 + 24y + 5y + 30 = 0$

Gives y = -6, -5/4

293) A

$3x^2 - 25x + 52 = 0$

$3x^2 - 12x - 13x + 52 = 0$

Gives x = 4, 13/3

$15y^2 - 38y - 40 = 0$

$15y^2 + 12y - 50y - 40 = 0$

Gives y = -4/5, 10/3

294) D

$12x^2 - 5x - 3 = 0$

$12x^2 + 4x - 9x - 3 = 0$

Gives x = -1/3, 3/4

$4y^2 - 11y + 6 = 0$

$4y^2 - 8y - 3y + 6 = 0$

Gives y= 3/4, 2

295) E

$3x^2 + 7x - 6 = 0$

$3x^2 + 9x - 2x - 6 = 0$

Gives x = -3, 2/3

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

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

Gives y = -1/2, 2/3

Put on number line

-3… -1/2 … 2/3

296) D

$4x^2 + 15x + 9 = 0$

$4x^2 + 12x + 3x + 9 = 0$

Gives x = -3, -3/4

$4y^2 - 13y - 12 = 0$
$4y^2 - 16y + 3y - 12 = 0$
Gives y = -3/4, 4

297) E
$2x^2 - 6x - \sqrt{3}x + 3\sqrt{3} = 0$
$2x (x- 3) - \sqrt{3} (x - 3) = 0$,
So x = 3, $\sqrt{3}/2$ (0.7)
$3y^2 - 9y - \sqrt{3}y + 3\sqrt{3} = 0$
$3y (y - 3) - \sqrt{3} (y - 3) = 0$
So x = 3, $\sqrt{3}/3$ (0.6)

298) E
$2x^2 - 2x - 2\sqrt{5}x + 2\sqrt{5} = 0$
$2x (x - 1) - 2\sqrt{5} (x - 1) = 0$
So x = 1, $\sqrt{5}$ (2.2)
$4y^2 - 6y - 2\sqrt{2}y + 3\sqrt{2} = 0$
$2y (2y - 3) - \sqrt{2} (2y - 3) = 0$
So, y = 3/2, $1/\sqrt{2}$ (0.7)

299) A
$2x^2 - 15\sqrt{3}x + 84 = 0$
Now multiply 2 and 84 = 168
we have $\sqrt{3}$ in equation, so divide, 168/3 = 56
Now make factors so as by multiply you get 56, and by addition or subtraction you get –15
we have factors (-8) and (-7)
So $2x^2 - 15\sqrt{3}x + 84 = 0$
gives
$2x^2 - 8\sqrt{3}x - 7\sqrt{3}x + 84 = 0$
$2x (x - 4\sqrt{3}) - 7\sqrt{3} (x - 4\sqrt{3}x) = 0$
So x = $3.5\sqrt{3}$, $4\sqrt{3}$
$3y^2 - 2y - 8 = 0$
$3y^2 - 6y + 4y - 8 = 0$
So y = -4/3, 1
Plot on number line
-4/3……1….. $3.5\sqrt{3}$….. $4\sqrt{3}$

300) A
Divide both equations by 2
$8x^2 + 10x + 3 = 0$
$8x^2 + 4x + 6x + 3 = 0$
Gives x = -1/2, -3/4
$5y^2 + 19y + 12 = 0$
$5y^2 + 15y + 4y + 12 = 0$
Gives y = -4, -4/5

Directions(301-310): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-

A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

301) I. $3x^2 + 22x + 24 = 0$,
II. $3y^2 - 8y - 16 = 0$

302) I. $5x^2 - 18x - 8 = 0$,
II. $2y^2 + 11y + 12 = 0$

303) I. $x^2 - 652 = 504$,
II. $y = \sqrt{1156}$

304) I. $9/\sqrt{x} + 8/(\sqrt{x} + 1) = 5$,
II. $12/\sqrt{y} - 4/\sqrt{y} = 2$

305) I. $3x^2 - 6x - \sqrt{3}x + 2\sqrt{3} = 0$,
II. $2y^2 - 3y - 2\sqrt{2}y + 3\sqrt{2} = 0$,

306) I. $x^2 - 2x - \sqrt{5}x + 2\sqrt{5} = 0$
II. $y^2 - 3y - \sqrt{6}y + 3\sqrt{6} = 0$

307) I. $8x^2 + 6x + 1 = 0$,
II. $5y^2 + 8y - 4 = 0$

308) I. $4x^2 - 23x + 30 = 0$,
II. $4y^2 - 3y - 45 = 0$

309) I. $5x^2 - 7x - 6 = 0$,
II. $3y^2 - 2y - 8 = 0$

310) I. $3x^2 + 2x - 21 = 0$,
II. $3y^2 - 19y + 28 = 0$

301) D
$3x^2 + 22x + 24 = 0$
$3x^2 + 18x + 4x + 24 = 0$
Gives x = -4/3, -6
$3y^2 - 8y - 16 = 0$
$3y^2 - 12y + 4y - 16 = 0$
So y = -4/3, 4
Plot on number line
-6…. -4/3……. 4

302) A
$5x^2 - 18x - 8 = 0$
$5x^2 - 20x + 2x - 8 = 0$
So x = -2/5, 4
$2y^2 + 11y + 12 = 0$
$2y^2 + 8y + 3y + 12 = 0$
Gives y = -4, -3/2
Plot on number line
-4… -3/2…. -2/5….. 4

303) D
$x^2 - 652 = 504$
$x^2 = 1156$
So x = 34, -34
$y = \sqrt{1156} = 34$
Plot on number line
-34… 34

304) B
$9/\sqrt{x} + 8/(\sqrt{x} + 1) = 5$
$[9(\sqrt{x} + 1) + 8\sqrt{x}]/[\sqrt{x} * (\sqrt{x} + 1)] = 5$
$17\sqrt{x} + 9 = 5 (x + \sqrt{x})$
$5x - 12\sqrt{x} - 9 = 0$
$5x - 15\sqrt{x} + 3\sqrt{x} - 9 = 0$
$5\sqrt{x} (\sqrt{x} - 3) + 3 (\sqrt{x} - 3) = 0$
√x cannot be -3/3
So √x = 3, so x = 9
$12/\sqrt{y} - 4/\sqrt{y} = 2$
$8/\sqrt{y} = 2$
So √y = 4 or y = 16
So y > x

305) E
$3x^2 - 6x - \sqrt{3}x + 2\sqrt{3} = 0$
$3x (x- 2) - \sqrt{3} (x - 2) = 0,$
So x = 2, √3/3
$2y^2 - 3y - 2\sqrt{2}y + 3\sqrt{2} = 0$
$y (2y - 3) - \sqrt{2} (2y - 3) = 0$
So y = 3/2, √2 (1.44)
plot on number line
√3/3(0.57)…….√2…..(3/2)……2

306) B
$x^2 - 2x - \sqrt{5}x + 2\sqrt{5} = 0$
$x (x - 2) - \sqrt{5} (x - 2) = 0$

So x = 2, √5 (2.23)

$y^2 - 3y - \sqrt{6}y + 3\sqrt{6} = 0$

$y(y - 3) - \sqrt{6}(y - 3) = 0$

So y = 3, √6 (2.44)

Plot on number line

2…2.23……2.44…….3

307) E

$8x^2 + 6x + 1 = 0$

$8x^2 + 4x + 2x + 1 = 0$

So x = -1/4, -1/2

$5y^2 + 8y - 4 = 0$

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

So y = -2, 2/5

308) E

$4x^2 - 23x + 30 = 0$

$4x^2 - 15x - 8x + 30 = 0$

So x = 15/4, 2

$4y^2 - 3y - 45 = 0$

$4y^2 + 12y - 15y - 45 = 0$

So y = -3, 15/4

Put on number line

-3…. 2…. 15/4

309) E

$5x^2 - 7x - 6 = 0$

$5x^2 - 10x + 3x - 6 = 0$

So x = -3/5, 2

$3y^2 - 2y - 8 = 0$

$3y^2 - 6y + 4y - 8 = 0$

So y = -4/3, 1

Plot on number line

-4/3……-3/5….. 1….. 2

310) D

$3x^2 + 2x - 21 = 0$

$3x^2 + 9x - 7x - 21 = 0$

Gives x = -3, 7/3

$3y^2 - 19y + 28 = 0$

$3y^2 - 12y - 7y + 28 = 0$

So y = 7/3, 4

Put on number line

-3……7/3……4

Directions(311-320): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly –

A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

311) I. $20x^2 - 31x + 12 = 0$,
II. $3y^2 - 5y + 2 = 0$

312) I. $3x^2 - 19x + 30 = 0$,
II. $3y^2 - 10y + 3 = 0$

313) I. $3x^2 - 25x + 52 = 0$,
II. $5y^2 - 18y + 9 = 0$

314)I. $4x^2 - 5x - 6 = 0$,
II. $5y^2 - 7y - 6 = 0$

315) I. $3x^2 - 10x + 8 = 0$,
II. $3y^2 - 14y + 16 = 0$

316) I. $2x^2 + 17x + 30 = 0$,
II. $4y^2 - 7y - 15 = 0$

317) I. $3x^2 + 16x + 20 = 0$,
II. $5y^2 + 8y - 4 = 0$

318) I. $2x^2 + 17x + 21 = 0$,
II. $2y^2 + 13y + 15 = 0$

319) I. $5x^2 - 7x - 6 = 0$,
II. $3y^2 - 19y + 28 = 0$

320) I. $8x^2 + 6x - 5 = 0$,
II. $2y^2 + 7y - 4 = 0$

311) E
$20x^2 - 31x + 12 = 0$
$20x^2 - 16x - 15x + 12 = 0$
So x = 3/4, 4/5
$3y^2 - 5y + 2 = 0$
$3y^2 - 3y - 2y + 2 = 0$
So y = 1, 2/3

312) C

$3x^2 - 19x + 30 = 0$
$3x^2 - 9x - 10x + 30 = 0$
So x = 3, 10/3
$3y^2 - 10y + 3 = 0$
$3y^2 - 9y - y + 3 = 0$
So y = 1/3, 3

313) A
$3x^2 - 25x + 52 = 0$
$3x^2 - 12x - 13x + 52 = 0$
So x = 4, 13/3
$5y^2 - 18y + 9 = 0$
$5y^2 - 15y - 3y + 9 = 0$
So y = 3/5, 3
Put on number line
-1/2 …. 3/5 ….2/3 …. 3

314) E
$4x^2 - 5x - 6 = 0$
$4x^2 - 8x + 3x - 6 = 0$
So x = -3/4, 2
$5y^2 - 7y - 6 = 0$
$5y^2 - 10y + 3y - 6 = 0$
So y = -3/5, 2

315) D
$3x^2 - 10x + 8 = 0$
$3x^2 - 6x - 4x + 8 = 0$
So x = 2, 4/3
$3y^2 - 14y + 16 = 0$
$3y^2 - 6y - 8y + 16 = 0$
So y = 2, 8/3

316) B
$2x^2 + 17x + 30 = 0$
$2x^2 + 12x + 5x + 30 = 0$
So x = -6, -5/2
$4y^2 - 7y - 15 = 0$
$4y^2 - 12y + 5y - 15 = 0$
So y = -5/4, 3

317) D
$3x^2 + 16x + 20 = 0$
$3x^2 + 6x + 10x + 20 = 0$
So x = -10/3, -2

$5y^2 + 8y - 4 = 0$
$5y^2 + 10y - 2y - 4 = 0$
So y = -2, 2/5

318) E
$2x^2 + 17x + 21 = 0$
$2x^2 + 14x + 3x + 21 = 0$
So x = -7, -3/2
$2y^2 + 13y + 15 = 0$
$2y^2 + 10y + 3y + 15 = 0$
So y = -5, -3/2

319) B
$5x^2 - 7x - 6 = 0$
$5x^2 - 10x + 3x - 6 = 0$
So x = -3/5, 2
$3y^2 - 19y + 28 = 0$
$3y^2 - 12y - 7y + 28 = 0$
So y = 7/3, 4

320) E
$8x^2 + 6x - 5 = 0$
$8x^2 - 4x + 10x - 5 = 0$
So x = -5/4, 1/2
$2y^2 + 7y - 4 = 0$
$2y^2 + 8y - y - 4 = 0$
So y = -4, 1/2

Directions(321-330): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-
A) x> y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

321) I. $20x^2 - 31x + 12 = 0$
II.$3y^2 - 16y + 16 = 0$

322) I. $3x^2 + 22x + 24 = 0$
II. $2y^2 - 5y - 12 = 0$

323) I. $2x^2 - 9x + 4 = 0$
II. $4y^2 - 13y - 12 = 0$

324) I. $5x^2 + 23x + 12 = 0$
II. $5y^2 – 7y – 6 = 0$

325) I. $7x^2 + 19x – 6 = 0$,
II. $2y^2 – 7y + 3 = 0$

326) I. $4x^2 – 12x + 5 = 0$,
II. $2y^2 – 19y + 35 = 0$

327) I. $2x^2 + 5x ¬– 12 = 0$,
II. $4y^2 + 13y – 12 = 0$

328) I. $3x^2 + 22x + 24 = 0$,
II. $4y^2 – 9y – 9 = 0$

329) I. $20x^2 – 31x + 12 = 0$,
II. $4y^2 + 9y – 9 = 0$

330) I. $6x^2 – 7x – 3 = 0$,
II. $4y^2 + 5y – 6 = 0$

321) B
$20x^2 – 31x + 12 = 0$
$20x^2 – 16x – 15x + 12 = 0$
So x = 3/4, 4/5
$3y^2 – 16y + 16 = 0$
$3y^2 – 12y – 4y + 16 = 0$
Gives y = 4, 4/3

322) E
$3x^2 + 22 x + 24 = 0$
$3x^2 + 18x + 4x + 24 = 0$
So x = -4/3, -6
$2y^2 – 5y – 12 = 0$
$2y^2 – 8y + 3y – 12 = 0$
Gives y = -3/2, 4

323) E
$2x^2 – 9x + 4 = 0$
$2x^2 – 8x – x + 4 = 0$
So x = 4 , 1/2
$4y^2 – 13y – 12 = 0$
$4y^2 – 16y + 3y – 12 = 0$
Gives y = -3/4, 4

324) D
$5x^2 + 23x + 12 = 0$
$5x^2 + 20x + 3x + 12 = 0$

So x = -4, -3/5

$5y^2 - 7y - 6 = 0$

$5y^2 - 10y + 3y - 6 = 0$

So y = -3/5, 2

Put all values on number line and analyze the relationship

-4….. -3/5…. 2

325) B

$7x^2 + 19x - 6 = 0$

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

Gives x = -3, 2/7

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

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

So y = 1/2, 3

326) D

$4x^2 - 12x + 5 = 0$

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

x = 1/2, 5/2

$2y^2 - 19y + 35 = 0$

$2y^2 - 14y - 5y + 35 = 0$

So y = 5/2, 7

327) E

$2x^2 + 5x \neg 12 = 0$

$2x^2 + 8x \neg 3x - 12 = 0$

So x = -4 , 3/2

$4y^2 + 13y - 12 = 0$

$4y^2 + 16y - 3y - 12 = 0$

y = -4, ¾

328) B

$3x^2 + 22 x + 24 = 0$

$3x^2 + 18x + 4x + 24 = 0$

Gives x = -4/3, -6

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

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

y = -3/4, 3

329) C

$20x^2 - 31x + 12 = 0$

$20x^2 - 16x - 15x + 12 = 0$

Gives x = 3/4, 4/5

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

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

y = 3/4, -3

330) E

$6x^2 - 7x - 3 = 0$

$6x^2 + 2x - 9x - 3 = 0$

Gives x = -1/3, 3/2

$4y^2 + 5y - 6 = 0$

$4y^2 + 8y - 3y - 6 = 0$

Gives y = -2, 3/4

Directions (Q. 331 - 340): You have to solve equation I and II ,Give answer
A) If X > Y
B) If X < Y
C) If X ≥ Y
D) If X ≤ Y
E) If X = Y or cannot be established

331). I. $2X^2 + 11X + 12 = 0$
II. $5Y^2 + 27Y + 10 = 0$

332). I. $25X^2 + 25X + 6 = 0$
II. $5Y^2 + 20Y + 20 = 0$

333). I. $3X^2 + 7X + 4 = 0$
II. $3Y^2 + 10Y + 8 = 0$

334). I. $(x+y)^2 = 900$
II. $Y + 1689 = 170$

335). I. $8X^2 + 3X - 38 = 0$
II. $6Y^2 - 29Y + 34 = 0$

336). $9x - 3x = 64.55 + 19.45$
√(y *155) = 7 + 6

337). I. $2X^2 + 19X + 44 = 0$
II. $2Y^2 + 3Y - 20 = 0$

338). I. $P^2 + 9P = 2P - 12$
II. $4Q^2 + 8Q = 4Q + 8$

339). I. $2X^2 - 7X + 6 = 0$
II. $4Y^2 = 9$

340). I. $X^2 = 1296$
II. $Y = \sqrt{1296}$

331) E

$3x^2 + 22x + 24 = 0$

$3x^2 + 18x + 4x + 24 = 0$

Gives x = -4/3, -6

$2y^2 + 11y + 12 = 0$

$2y^2 + 8y + 3y + 12 = 0$

Gives y = -4, -3/2

Put all values on number line and analyze the relationship

-6…..-4…. -3/2….-4/3

332) B

$3x^2 + 7x - 6 = 0$

$3x^2 + 9x - 2x - 6 = 0$

Gives x = -3, 2/3

$6y^2 - 35y + 50 = 0$

$6y^2 - 15y - 20y + 50 = 0$

Gives y = 5/2, 10/3

Put all values on number line and analyze the relationship

-3… 2/3… 5/2…. 10/3

333) D

$4x^2 + 13x + 10 = 0$

$4x^2 + 8x + 5x + 10 = 0$

Gives x = -2, -5/4

$4y^2 - 7y - 15 = 0$

$4y^2 - 12y + 5y - 15 = 0$

Gives y = -5/4, 3

Put all values on number line and analyze the relationship

-2… -5/4…. 3

334) B

$3x^2 + 23x + 30 = 0$

$3x^2 + 18x + 5x + 30 = 0$

Gives x = -5/3, -6

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

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

Gives y = 2, -2/3

Put all values on number line and analyze the relationship

-6…. -5/3….. -2/3…… 2

335) B

$6x2 + 5x - 1 = 0$

$6x2 + 6x - x - 1 = 0$

Gives x = -1, 1/6

$3y2 - 11y + 6 = 0$

$3y2 - 9y - 2y + 6 = 0$

Gives y = 2/3, 3
Put on number line
-1… 1/6… 2/3… 3

336) E
$3x^2 + 4x - 4 = 0$
$3x^2 + 6x - 2x - 4 = 0$
Gives x = -2, 2/3
$4y^2 + 5y - 6 = 0$
$4y^2 + 5y - 6 = 0$
Gives y = -2, 3/4
Put on number line
-2…. 2/3… 3/4
When x=2/3, x>y(= -2) and x<y(= 3/4)
So cant be determined

337) E
$5x^2 - 36x - 32 = 0$
$5x^2 + 4x - 40x - 32 = 0$
Gives x = -4/5, 8
$3y^2 - 17y - 6 = 0$
$3y^2 + y - 18y - 6 = 0$
Gives y= -1/3, 6
Put on number line
-4/5…. -1/3… 6… 8

338) A
$3x^2 - 25x + 52 = 0$
$3x^2 - 12x - 13x + 52 = 0$
Gives x = 4, 13/3
$15y^2 - 38y - 40 = 0$
$15y^2 + 12y - 50y - 40 = 0$
Gives y = -4/5, 10/3
Put on number line
-4/5… 10/3… 4… 13/3

339) A
$6x^2 + x - 2 = 0$
$6x^2 + 4x - 3x - 2 = 0$
Gives x = -2/3, 1/2
$2y^2 + 11y + 14 = 0$
$2y^2 + 4y + 7y + 14 = 0$
Gives y = -7/2, -2

340) D

$3x^2 + 14x - 5 = 0$
$3x^2 + 15x - x - 5 = 0$
Gives x = -5, 1/3
$3y^2 - 19y + 6 = 0$
$3y^2 - 18y - y + 6 = 0$
Gives y = 1/3, 6
Put on number line
-5…. 1/3… 6

Directions(341-350): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-
341) I. $3x^2 + 22 x + 24 = 0$
II. $2y^2 + 11y + 12 = 0$

342) I. $3x^2 + 7x - 6 = 0$
II. $6y^2 - 35y + 50 = 0$

343) I. $4x^2 + 13x + 10 = 0$
II. $4y^2 - 7y - 15 = 0$

344) I. $3x^2 + 23x + 30 = 0$
II. $3y^2 - 4y - 4 = 0$

345) I. $6x^2 + 5x - 1 = 0$,
II. $3y^2 - 11y + 6 = 0$

346) I. $3x^2 + 4x - 4 = 0$,
II. $4y^2 + 5y - 6 = 0$

347) I. $5x^2 - 36x - 32 = 0$,
II. $3y^2 - 17y - 6 = 0$

348)I. $3x^2 - 25x + 52 = 0$,
II. $15y^2 - 38y - 40 = 0$

349) I. $6x^2 + x - 2 = 0$,
II. $2y^2 + 11y + 14 = 0$

350) I. $3x^2 + 14x - 5 = 0$,
II. $3y^2 - 19y + 6 = 0$

341) E
$3x^2 + 22 x + 24 = 0$
$3x^2 + 18x + 4x + 24 = 0$
Gives x = -4/3, -6
$2y^2 + 11y + 12 = 0$
$2y^2 + 8y + 3y + 12 = 0$
Gives y = -4, -3/2

Put all values on number line and analyze the relationship
-6…..-4…. -3/2….-4/3

342) B
$3x^2 + 7x – 6 = 0$
$3x^2 + 9x – 2x – 6 = 0$
Gives x = -3, 2/3
$6y^2 – 35y + 50 = 0$
$6y^2 – 15y – 20y + 50 = 0$
Gives y = 5/2, 10/3
Put all values on number line and analyze the relationship
-3… 2/3… 5/2…. 10/3

343) D
$4x^2 + 13x + 10 = 0$
$4x^2 + 8x + 5x + 10 = 0$
Gives x = -2, -5/4
$4y^2 – 7y – 15 = 0$
$4y^2 – 12y + 5y – 15 = 0$
Gives y = -5/4, 3
Put all values on number line and analyze the relationship
-2… -5/4…. 3

344) B
$3x^2 + 23x + 30 = 0$
$3x^2 + 18x + 5x + 30 = 0$
Gives x = -5/3, -6
$3y^2 – 4y – 4 = 0$
$3y^2 – 6y + 2y – 4 = 0$
Gives y = 2, -2/3
Put all values on number line and analyze the relationship
-6…. -5/3….. -2/3…… 2

345) B
$6x^2 + 5x – 1 = 0$
$6x^2 + 6x – x – 1 = 0$
Gives x = -1, 1/6
$3y^2 – 11y + 6 = 0$
$3y^2 – 9y – 2y + 6 = 0$
Gives y = 2/3, 3
Put on number line
-1… 1/6… 2/3… 3

346) E

$3x^2 + 4x - 4 = 0$
$3x^2 + 6x - 2x - 4 = 0$
Gives x = -2, 2/3
$4y^2 + 5y - 6 = 0$
$4y^2 + 5y - 6 = 0$
Gives y = -2, 3/4
Put on number line
-2…. 2/3… 3/4
When x=2/3, x>y(= -2) and x<y(= 3/4)
So cant be determined

347) E
$5x^2 - 36x - 32 = 0$
$5x^2 + 4x - 40x - 32 = 0$
Gives x = -4/5, 8
$3y^2 - 17y - 6 = 0$
$3y^2 + y - 18y - 6 = 0$
Gives y= -1/3, 6
Put on number line
-4/5…. -1/3… 6… 8

348) A
$3x^2 - 25x + 52 = 0$
$3x^2 - 12x - 13x + 52 = 0$
Gives x = 4, 13/3
$15y^2 - 38y - 40 = 0$
$15y^2 + 12y - 50y - 40 = 0$
Gives y = -4/5, 10/3
Put on number line
-4/5… 10/3… 4… 13/3

349) A
$6x^2 + x - 2 = 0$
$6x^2 + 4x - 3x - 2 = 0$
Gives x = -2/3, 1/2
$2y^2 + 11y + 14 = 0$
$2y^2 + 4y + 7y + 14 = 0$
Gives y = -7/2, -2

350) D
$3x^2 + 14x - 5 = 0$
$3x^2 + 15x - x - 5 = 0$
Gives x = -5, 1/3
$3y^2 - 19y + 6 = 0$
$3y^2 - 18y - y + 6 = 0$

Gives y = 1/3, 6
Put on number line
-5…. 1/3… 6

Directions(351-360): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-
A) x> y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

351) I. $8/\sqrt{x} + 9/(\sqrt{x} +1) = 7$,
II. $9/\sqrt{y} – 3/\sqrt{y} = 2$

352) I. $9/\sqrt{x} + 3/\sqrt{x} = \sqrt{x} + 1$,
II. $4y^2 + 5y – 6 = 0$

353) I. $6x^2 + 13x + 6 = 0$,
II. $6y^2 – y – 2 = 0$

354) I. $3x^2 + 14x – 5 = 0$,
II. $3y^2 – 11y + 6 = 0$

355) I. $6x^2 + 5x – 1 = 0$,
II. $3y^2 – 10y + 3 = 0$

356) I. $12x^2 – 5x – 3 = 0$,
II. $3y^2 – 11y + 6 = 0$

357) I. $6x^2 + 7x + 2 = 0$,
II. $15y^2 – 38y – 40 = 0$

358) I. $3x^2 – 25x + 52 = 0$,
II. $2y^2 – 7y + 3 = 0$

359) I. $x^2 = 1156$,
II. $y = \sqrt{1156}$

360) I. $x^2 – \sqrt{3969} = \sqrt{6561}$,
II. $y^2 – \sqrt{1296} = \sqrt{4096}$

351) B
$8/\sqrt{x} + 9/(\sqrt{x} +1) = 7$
$[8(\sqrt{x} +1) + 9\sqrt{x}]/[\sqrt{x} * (\sqrt{x} +1)] = 7$
$17\sqrt{x} + 8 = 7 (x + \sqrt{x})$
$7x – 10\sqrt{x} – 8 = 0$
$7x – 14\sqrt{x} + 4\sqrt{x} – 8 = 0$
$7\sqrt{x} (\sqrt{x} – 2) + 4 (\sqrt{x} – 2) = 0$

√x cannot be -4/7
So √x = 2, so x = 4
9/√y – 3/√y = 2
(9 – 3)/√y = 2
Gives √y = 3, so y = 9

352) A
9/√x + 3/√x = √x + 1
12/√x = √x + 1
x + √x – 12 = 0
x + 4√x – 3√x – 12 = 0
√x(√x + 4) – 3 (√x + 4) = 0
√x cannot be -4, So √x = 3 => x = 9
$4y^2 + 5y – 6 = 0$
$4y^2 + 5y – 6 = 0$
Gives y = -2, 3/4
Put all values on number line and analyze the relationship
-2… 3/4… 9

353) B
$6x^2 + 13x + 6 = 0$
$6x^2 + 9x + 4x + 6 = 0$
Gives x = -2/3, -3/2
$6y^2 – y – 2 = 0$
$6y^2 + 3y – 4y – 2 = 0$
Gives y = -1/2, 2/3
Put all values on number line and analyze the relationship
-3/2… -2/3… -1/2… 2/3

354) B
$3x^2 + 14x – 5 = 0$
$3x^2 + 15x – x – 5 = 0$
Gives x = -5, 1/3
$3y^2 – 11y + 6 = 0$
$3y^2 – 9y – 2y + 6 = 0$
Gives y = 2/3, 3
Put all values on number line and analyze the relationship
-5… 1/3… 2/3… 3

355) B
$6x^2 + 5x – 1 = 0$
$6x^2 + 6x – x – 1 = 0$
Gives x = -1, 1/6
$3y^2 – 10y + 3 = 0$
$3y^2 – 9y – y + 3 = 0$

Gives y = 1/3, 3
Put all values on number line and analyze the relationship
-1… 1/6… 1/3… 3

356) E
$12x^2 - 5x - 3 = 0$
$12x^2 + 4x - 9x - 3 = 0$
Gives x = -1/3, 3/4
$3y^2 - 11y + 6 = 0$
$3y^2 - 9y - 2y + 6 = 0$
Gives y = 2/3, 3
Put all values on number line and analyze the relationship
-1/3… 2/3… 3/4… 3

357) E
$6x^2 + 7x + 2 = 0$
$6x^2 + 4x + 3x + 2 = 0$
Gives x = -2/3, -1/2
$15y^2 - 38y - 40 = 0$
$15y^2 + 12y - 50y - 40 = 0$
Gives y = -4/5, 10/3
Put all values on number line and analyze the relationship
-4/5… -2/3… -1/2… 10/3

358) A
$3x^2 - 25x + 52 = 0$
$3x^2 - 12x - 13x + 52 = 0$
Gives x = 4, 13/3
$2y^2 - 7y + 3 = 0$
$2y^2 - 6y - y + 3 = 0$
So y = 1/2, 3
Put all values on number line and analyze the relationship
1/2… 3… 4… 13/3

359) D
$x^2 = 1156$,
So x = -34, 34
$y = \sqrt{1156}$
So y = 34
Put all values on number line and analyze the relationship
-34… 34

360) E
$x^2 - \sqrt{3969} = \sqrt{6561}$
$x^2 - 63 = 81$

$x^2 = 144$
So x = -12, 12
$y^2 - \sqrt{1296} = \sqrt{4096}$
$y^2 - 36 = 64$
$y^2 = 100$
So y = -10, 10
Put all values on number line and analyze the relationship
-12… -10….10…. 12

361) I. $2x^2 - 15\sqrt{3}x + 84 = 0$
II. $3y^2 - 10\sqrt{3}y + 9 = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

362) I. $x^2 + \sqrt{5}x - 10 = 0$
II. $2y^2 + 9\sqrt{5}y + 50 = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

363) I. $2x^2 - (8+\sqrt{3})x + 4\sqrt{3} = 0$
II. $3y^2 - (6+2\sqrt{3})y + 4\sqrt{3} = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

364) I. $x^2 - (2+\sqrt{5})x + 2\sqrt{5} = 0$
II. $2y^2 - (6+3\sqrt{5})y + 9\sqrt{5} = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

365) I. $3x^2 + 5\sqrt{2}x - 24 = 0$
II. $y^2 - 6\sqrt{2}y + 16 = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

366) I. $3x^2 - 23x + 40 = 0$
II. $3y^2 - 8y + 4 = 0$

A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

367) I. 5x² – 17x + 6 = 0
II. 4y² – 16y + 7 = 0
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

368) I. 3x² – 14x + 8 = 0
II. 3y² – 20y + 12 = 0
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

369) I. 12x² + 25x + 12 = 0
II. 3y² + 22y + 24 = 0
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

370) I. 6x² + x – 2 = 0
II. 3y² – 22y + 40 = 0
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

361) A
2x² – 15√3x + 84 = 0
Now multiply 2 and 84 = 168
we have √3 in equation, so divide, 168/3 = 56
Now make factors so as by multiply you get 56, and by addition or subtraction you get –15
we have factors (-8) and (-7)
So 2x² – 15√3x + 84 = 0
gives
2x² – 8√3x – 7√3x + 84 = 0
2x (x – 4√3) – 7√3 (x – 4√3x) = 0
So x = 7√3/2, 4√3
Similarly for

$3y^2 – 10\sqrt{3}y + 9 = 0$
Multiply 3 and 9 = 27
we have $\sqrt{3}$ in equation, so divide, 27/3 = 9
Now make factors so as by multiply you get 9, and by addition or subtraction you get –10
we have factors (-9) and (-1)
So $3y^2 – 10\sqrt{3}y + 9 = 0$
gives
$3y^2 – 9\sqrt{3}y – \sqrt{3}y + 9 = 0$
$3x (x – 3\sqrt{3}) – \sqrt{3} (x – 3\sqrt{3}x) = 0$
Put all values on number line and analyze the relationship
$\sqrt{3}/3$ …. $3\sqrt{3}$ ….. $7\sqrt{3}/2$ …… $4\sqrt{3}$

362) C
$x^2 + \sqrt{5}x – 10 = 0$
$x^2 + 2\sqrt{5}x – \sqrt{5}x – 10 = 0$
Gives x = $-2\sqrt{5}$, $\sqrt{5}$
$2y^2 + 9\sqrt{5}y + 50 = 0$
$2y^2 + 4\sqrt{5}y + 5\sqrt{5}y + 50 = 0$
Gives y = $-2\sqrt{5}$, $-5\sqrt{5}/2$
Put all values on number line and analyze the relationship
$-5\sqrt{5}/2$….. $-2\sqrt{5}$….. $\sqrt{5}$

363) E
$2x^2 – (8+\sqrt{3})x + 4\sqrt{3} = 0$
By multiplying we have to $2*4\sqrt{3} = 8\sqrt{3}$ and by adding/subtracting we have to get – $(8+\sqrt{3})$
So factors are -8 and $-\sqrt{3}$
So $2x^2 – (8+\sqrt{3})x + 4\sqrt{3} = 0$
Gives
$2x^2 – 8x – \sqrt{3}x + 4\sqrt{3} = 0$
$2x(x- 4) – \sqrt{3}(x – 4) = 0$
So x = 4, $\sqrt{3}/2$
NEXT
$3y^2 – (6+2\sqrt{3})y + 4\sqrt{3} = 0$
By multiplying we have to $3*4\sqrt{3} = 12\sqrt{3}$ and by adding/subtracting we have to get $–(6+2\sqrt{3})$
So factors are -6 and $-2\sqrt{3}$
So $3y^2 – (6+2\sqrt{3})y + 4\sqrt{3} = 0$
Gives
$3y^2 – 6y – 2\sqrt{3}y + 4\sqrt{3} = 0$
$3y(y- 2) – 2\sqrt{3}(y – 2) = 0$
So x = 2, $2\sqrt{3}/3$
Put all values on number line and analyze the relationship
$\sqrt{3}/2$…… $2\sqrt{3}/3$…… 2… 4

364) B

$x^2 – (2+\sqrt{5})x + 2\sqrt{5} = 0$
By multiplying we have to $2\sqrt{5}$ and by adding/subtracting we have to get $– (2+\sqrt{5})$
So factors are -2 and $-\sqrt{5}$
So $x^2 – (2+\sqrt{5})x + 2\sqrt{5} = 0$
Gives
$x^2 – 2x – \sqrt{5}x + 2\sqrt{5} = 0$
$x(x- 2) – \sqrt{5}(x – 2) = 0$
So x = 2, $\sqrt{5}$
NEXT
$2y^2 – (6+3\sqrt{5})y + 9\sqrt{5} = 0$
By multiplying we have to $2*9\sqrt{5} = 18\sqrt{5}$ and by adding/subtracting we have to get $–(6+3\sqrt{5})$
So factors are -6 and $-3\sqrt{5}$
So $2y^2 – (6+3\sqrt{5})y + 9\sqrt{5} = 0$
Gives
$2y^2 – 6y – 3\sqrt{5}y + 9\sqrt{5} = 0$
$2y(y- 3) – 3\sqrt{5}(y – 3) = 0$
So x = 3, $3\sqrt{5}/2$
Put all values on number line and analyze the relationship
2…… $\sqrt{5}$…… 3… $3\sqrt{5}/2$

365) B
$3x^2 + 5\sqrt{2}x – 24 = 0$
$3x^2 + 9\sqrt{2}x – 4\sqrt{2}x – 24 = 0$
Gives x = $-3\sqrt{2}$, $4\sqrt{2}/3$
$y^2 – 6\sqrt{2}y + 16 = 0$
$y^2 – 2\sqrt{2}y – 4\sqrt{2}y + 16 = 0$
Gives y = $2\sqrt{2}$, $4\sqrt{2}$
Put all values on number line and analyze the relationship
$3\sqrt{2}$……. $4\sqrt{2}/3$…… $2\sqrt{2}$….. $4\sqrt{2}$

366) A
$3x^2 – 23x + 40 = 0$
$3x^2 – 15x – 8x + 40 = 0$
Gives x = 5, 8/3
$3y^2 – 8y + 4 = 0$
$3y^2 – 6y – 2y + 4 = 0$
Gives y = 2/3, 2
Put all values on number line and analyze the relationship
2/3….. 2….. 8/3….. 5

367) E
$5x^2 – 17x + 6 = 0$
$5x^2 – 15x – 2x + 6 = 0$
Gives x = 2/5, 3
$4y^2 – 16y + 7 = 0$

$4y^2 – 2y – 14y + 7 = 0$
Gives y = 1/2, 7/2
Put all values on number line and analyze the relationship
2/5….. 1/2….. 3…. 7/2

368) E
$3x^2 – 14x + 8 = 0$
$3x^2 – 12x – 2x + 8 = 0$
Gives x = 4, 2/3
$3y^2 – 20y + 12 = 0$
$3y^2 – 18y – 2y + 12 = 0$
Gives y = 2/3, 6
Put all values on number line and analyze the relationship
2/3…….. 4….. 6

369) C
$12x^2 + 25x + 12 = 0$
$12x^2 + 16x + 9x + 12 = 0$
Gives x = -4/3, -3/4
$3y^2 + 22y + 24 = 0$
$3y^2 + 18y + 4y + 24 = 0$
Gives y = -4/3, -6
Put all values on number line and analyze the relationship
-6…… -4/3…… -3/4

370) B
$6x^2 + x – 2 = 0$
$6x^2 + 4x – 3x – 2 = 0$
Gives x = 1/2, -2/3
$3y^2 – 22y + 40 = 0$
$3y^2 – 12y – 10y + 40 = 0$
Gives y = 10/3, 4
Put all values on number line and analyze the relationship
-2/3…… 1/2…… 10/3….. 4

Directions(371-780): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly.
A) x> y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

371) I. $3x^2 – 17x + 10 = 0$
II. $3y^2 + 4y – 4 = 0$

372) I. $3x^2 – 14x + 8 = 0$
II. $3y^2 – 20y + 12 = 0$

373) I. $3x^2 – 19x + 28 = 0$
II. $4y^2 – 5y – 6 = 0$

374) I. $6x^2 + 23x + 21 = 0$
II. $3y^2 – 14y – 5 = 0$

375) I. $2x^2 – 7x + 3 = 0$
II. $2y^2 + 11y + 12 = 0$

376) I. $3x^2 + 22x + 35 = 0$
II. $6y^2 + 11y – 7 = 0$

377) I. $2x^2 – 3x – 9 = 0$
II. $3y^2 + 11y + 6 = 0$

378) I. $x^2 + 14x + 45 = 0$
II. $3y^2 – y – 10 = 0$

379) I. $4x^2 + 17x + 15 = 0$
II. $4y^2 – 3y – 10 = 0$

380) I. $2x^2 – 17x + 36 = 0$
II. $3y^2 – 14y + 8 = 0$

371) C
$3x^2 – 17x + 10 = 0$
$3x^2 – 15x – 2x + 10 = 0$
Gives x = 2/3, 5
$3y^2 + 4y – 4 = 0$
$3y^2 + 6y – 2y – 4 = 0$
Gives y = -2, 2/3
Put all values on number line and analyze the relationship
-2…. 2/3…… 5

372) E
$3x^2 – 14x +8 = 0$
$3x^2 – 12x – 2x + 8 = 0$
Gives x = 2/3, 4
$3y^2 – 20y + 12 = 0$
$3y^2 – 18y – 2y + 12 = 0$
Gives y = 6, 2/3
Put all values on number line and analyze the relationship
2/3….. 4….. 6

373) A

$4x^2 - 19x + 28 = 0$

$4x^2 - 12x - 7x + 28 = 0$

Gives x = 7/3, 4

$4y^2 - 5y - 6 = 0$

$4y^2 - 8y + 3y - 6 = 0$

Gives y = -3/4, 2

Put all values on number line and analyze the relationship

-3/4…… 2…… 7/3…. 4

374) B

$6x^2 + 23x + 21 = 0$

$6x^2 + 9x + 14x + 21 = 0$

Gives x = -7/3, -3/2

$3y^2 - 14y - 5 = 0$

$3y^2 - 15y + y - 5 = 0$

Gives y = -1/3, 5

Put all values on number line and analyze the relationship

-7/3…… -3/2….. -1/3…… 5

375) A

$2x^2 - 7x + 3 = 0$

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

Gives x = 3, 1/2

$2y^2 + 11y + 12 = 0$

$2y^2 + 8y + 3y + 12 = 0$

Gives y = -3/2, -4

Put all values on number line and analyze the relationship

-4……. -3/2…… 1/2….. 3

376) D

$3x^2 + 22x + 35 = 0$

$3x^2 + 15x + 7x + 35 = 0$

Gives x = -5, -7/3

$6y^2 + 11y - 7 = 0$

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

Gives y = 1/2, -7/3

Put all values on number line and analyze the relationship

-5….. -7/3….. ½

377) E

$2x^2 - 3x - 9 = 0$

$2x^2 - 6x + 3x - 9 = 0$

Gives x = -3/2, 3

$3y^2 + 11y + 6 = 0$

$3y^2 + 9y + 2y + 6 = 0$

Gives y = -3, -2/3

Put all values on number line and analyze the relationship

-3….. -3/2….. -2/3…. 3

378) B

$x^2 + 14x + 45 = 0$

$x^2 + 9x + 5x + 45 = 0$

Gives x = -9, -5

$3y^2 – y – 10 = 0$

$3y^2 – 6y + 5y – 10 = 0$

Gives y = -5/3, 2

Put all values on number line and analyze the relationship

-9…….. -5….. -5/3……. 2

379) D

$4x^2 + 17x + 15 = 0$

$4x^2 + 12x + 5x + 15 = 0$

Gives x = -3, -5/4

$4y^2 – 3y – 10 = 0$

$4y^2 – 8y + 5y – 10 = 0$

Gives y = -5/4, 2

Put all values on number line and analyze the relationship

-3…… -5/4…… 2

380) C

$2x^2 – 17x + 36 = 0$

$2x^2 – 8x – 9x + 36 = 0$

Gives x = 4, 9/2

$3y^2 – 14y + 8 = 0$

$3y^2 – 12y + 2y + 8 = 0$

Gives y = 2/3, 4

Put all values on number line and analyze the relationship

2/3…… 4…… 9/2

Directions (381-385): 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 relation cannot be established between 'x'and 'y'.

381) I. 8x+y=10

   II. 4x+2y=13

382) I. (x+3) (y+2)=12

   II. 2xy+4x+5y=11

383) I. (3x-2)/y = (3x+6)/(y+16)
   II.(x+2)/(y+4) = (x+5)/(Y+10)

384) I. x^2+20x+4=50-25x
   II. y^2-10y+24=0

385) I. (x^2-10x+16)/(x^2 -12x +24) = 2/3
   II. y^2-y-20=0

Directions (386-390): 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 relationship between x and y can't be established.

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

387) I. 5x^2=19x-12
   II. 5y^2+11y=12

388) I. x^3=(1331)
   II. 2y^2-21y+55=0

389) I. 5x=7y+21
   II. 11x+4y+109=0

390) I. 2x^2-11x+12=0
   II. 2y^2-17y+36=0

381) B
 from both equation
x=7/12, y=16/3
y>x

382) E
 xy+3y+2x +6 =12
 2xy+6y+4x=12----(i)
2xy+5y+4x=11 ---- (ii)
From eq. (i) --- (ii)
Y = 1
From eq. (i)
x=1
x = y

383) B
(3x-2)/y = (3x+6)/(y+16)

48x-8y = 32 ---- (i)
(x+2)/(y+4) = (x+5)/(y+10)
y = 2x ---- (i)
From Equation (i) & (ii)
x=1, y=2
y>x

384) B
 From the given Equation
 x=1, -46
& y=-2,/2
x < y

385) E
 From 1st equation
 x^2-6x=0
 x=0,6
 From 2nd equation
(y+4) (y-5)
y=-4,5
x # y

386) B
 6x^2-49x+99=0
(3x-11) (2x-9)=0
x=11/3, 9/2
5^2+17y+14=>
(5y+7) (y+2)=>
y=-2,-7/5
x>y

387) D
5x^2-19x+12=0
x=3,4/5
5y^2+11y=12
y = 4/5 ,-3

388) B
 x=11
2y^2-21y+55= 0
(2y-11) (y-5)= 0
y=5,11/2
x>y

389) B

From given equation
x=-7
y=-8
x>Y

390) C
2x^2-11x+12=>
x=3/2,4
2y^2-17y+36=>
y=4,9/2

391) **x² – 10x + 24 = 0**
y² – 14y + 48 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

392) x² – 30x + 216 = 0
y² – 23y + 132 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

393) x² + 32x + 247 = 0
y² + 20y + 91 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

394) x² – 21x + 98 = 0
y² – 23y + 120 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

395) (x – 16)² = 0
y² = 256
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

396) x² – 43x + 450 = 0
y² – 33y + 272 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

397) **x² – 28x + 195 = 0**
y² – 35y + 306 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

398) x² – 38x + 345 = 0
y² – 23y + 130 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

399)x² = 64
y² – 30y + 225 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

400) x² – 30x + 221 = 0
y² – 31y + 240 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

391) D
x² – 10x + 24 = 0
x = 4, 6
y² – 14y + 48 = 0
y = 6, 8

392) C
x² – 30x + 216 = 0
x = 12, 18

$y^2 - 23y + 132 = 0$
$y = 12, 11$

393) D
$x^2 + 32x + 247 = 0$
$x = -13, -19$
$y^2 + 20y + 91 = 0$
$y = -13, -7$

394) E
$x^2 - 21x + 98 = 0$
$x = 14, 7$
$y^2 - 23y + 120 = 0$
$y = 15, 8$

395) C
$x^2 - 32x + 256 = 0$
$x = 16, 16$
$y^2 = 256$
$y = \pm 16$

396) A
$x^2 - 43x + 450 = 0$
$x = 25, 18$
$y^2 - 33y + 272 = 0$
$y = 17, 16$

397) B
$x^2 - 28x + 195 = 0$
$x = 13, 15$
$y^2 - 35y + 306 = 0$
$y = 17, 18$

398) A
$x^2 - 38x + 345 = 0$
$x = 23, 15$
$y^2 - 23y + 130 = 0$
$y = 10, 13$

399) B
$x^2 = 64$
$x = 8, -8$
$y^2 - 30y + 225 = 0$
$y = 15, 15$

400) E
x² – 30x + 221 = 0
x = 13, 17
y² – 31y + 240 = 0
y = 15, 16

Directions (401-410): In each of these questions, two equations (I) and (II) are given. You have to solve both the equations and give answer
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

401. 4x² + 8x + 3 = 0
4y² – 29y + 45 = 0

402. 2x² – 23x + 21 = 0
y² + 42y + 272 = 0

403. 5x² – 26x + 21 = 0
2y² – 17y + 21 = 0

404. x² – 21x + 104 = 0
y² – 33y + 260 = 0

405. x² – 31x + 240 = 0
y² – 28y + 195 = 0

406. x² – 37x + 300 = 0
y² – 43y + 372 = 0

407. x² – 32x + 255 = 0
y² – 28y + 195 = 0

408. x² + 39x + 368 = 0
y² – 15y – 250 = 0

409. 4x² + 25x + 21 = 0
3y² + 29y + 56 = 0

410. x² – 17x + 72 = 0
6y² – 31y + 35 = 0

401). B. X < Y
4x² + 8x + 3 = 0
x = -0.5, -3.5
4y² – 29y + 45 = 0
y = 2.25, 5

402). A. X > Y

$2x^2 - 23x + 21 = 0$

x = 10.5, 2

$y^2 + 42y + 272 = 0$

y = -16, -17

403). E. X = Y or relation cannot be established

$5x^2 - 26x + 21 = 0$

x = 4.2, 1

$2y^2 - 17y + 21 = 0$

y = 7, 1.5

404). D. X ≤ Y

$x^2 - 21x + 104 = 0$

x = 13, 8

$y^2 - 33y + 260 = 0$

y = 13, 20

405). C. X ≥ Y

$x^2 - 31x + 240 = 0$

x = 15, 16

$y^2 - 28y + 195 = 0$

y = 13, 15

406). E. X = Y or relation cannot be established

$x^2 - 37x + 300 = 0$

x = 25, 12

$y^2 - 43y + 372 = 0$

y = 31, 12

407). C. X ≥ Y

$x^2 - 32x + 255 = 0$

x = 15, 17

$y^2 - 28y + 195 = 0$

y = 15, 13

408). B. X < Y

$x^2 + 39x + 368 = 0$

x = -23, -16

$y^2 - 15y - 250 = 0$

y = 25, – 10

409). E. X = Y or relation cannot be established

$4x^2 + 25x + 21 = 0$

x = -1, – 5.25

$3y^2 + 29y + 56 = 0$
$y = -7, -2.6$

410). A. X > Y
$x^2 - 17x + 72 = 0$
$x = 8, 9$
$6y^2 - 31y + 35 = 0$
$y = 1.6, 3.5$

Directions(411-420): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-

411). I. $4x2 + 5x - 6 = 0$,
II. $2y2 + 11y + 12 = 0$
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

412). I. $12x2 - 49x + 30 = 0$,
II. $6y2 - 35y + 50 = 0$
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

413). I. $4x2 + 13x + 10 = 0$,
II. $4y2 - 7y - 15 = 0$
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

414). I. $12x2 - 5x - 3 = 0$,
II. $6y2 + y - 2 = 0$
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

415). I. $3x2 + 7x - 6 = 0$,
II. $3y2 - 11y + 6 = 0$
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

416). I. 5x2 – 36x – 32 = 0,
II. 3y2 + 16y + 20 = 0
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

417). I. 2x2 + (4 + √2)x + 2√2 = 0
II. y2 – (1 + 3√3)y + 3√3 = 0
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

418). I. x2 + (3 + 2√2)x + 6√2 = 0
II. 5y2 – (1 + 5√2)y + √2 = 0
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

419). I. 2x2 + (4 + 2√6)x + 4√6 = 0
II. 5y2 + (10 + √6)y + 2√6 = 0
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

420). I. 9a2 + 18a + 5 = 0,
II. 2b2 + 13b + 20 = 0 to solve both the equations to find the values of a and b?
If a > b
B. If a ≥ b
C. If a < b
D. If a ≤ b
E. If a = b or the relationship between a and b cannot be established.

411). E)
4x2 + 5x – 6 = 0
4x2 + 8x – 3x – 6 = 0
Gives x = -2, 3/4
2y2 + 11y + 12 = 0
2y2 + 8y + 3y + 12 = 0
Gives y = -4, -3/2

412). E)
12x2 – 49x + 30 = 0

$12x^2 - 9x - 40x + 30 = 0$

Gives x = 3/4, 10/3

$6y^2 - 35y + 50 = 0$

$6y^2 - 15y - 20y + 50 = 0$

Gives y = 5/2, 10/3

413). D)

$4x^2 + 13x + 10 = 0$

$4x^2 + 8x + 5x + 10 = 0$

Gives x = -2, -5/4

$4y^2 - 7y - 15 = 0$

$4y^2 - 12y + 5y - 15 = 0$

Gives y = -5/4, 3

414. E)

$12x^2 - 5x - 3 = 0$

$12x^2 + 4x - 9x - 3 = 0$

Gives x = -1/3, 3/4

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

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

Gives y= -2/3, 1/2

415). D)

$3x^2 + 7x - 6 = 0$

$3x^2 + 9x - 2x - 6 = 0$

Gives x = -3, 2/3

$3y^2 - 11y + 6 = 0$

$3y^2 - 9y - 2y + 6 = 0$

Gives y = 2/3, 3

416). A)

$5x^2 - 36x - 32 = 0$

$5x^2 + 4x - 40x - 32 = 0$

Gives x = -4/5, 8

$3y^2 + 16y + 20 = 0$

$3y^2 + 6y + 10y + 20 = 0$

Gives y = -10/3, -2

417). B)

$2x^2 + (4 + \sqrt{2})x + 2\sqrt{2} = 0$

$(2x^2 + 4x) + (\sqrt{2}x + 2\sqrt{2}) = 0$

$2x (x + 2) + \sqrt{2} (x + 2) = 0$

So x = -2, -√2/2 (-0.7)

$y^2 - (1 + 3\sqrt{3})y + 3\sqrt{3} = 0$

$(y^2 - y) - (3\sqrt{3}y - 3\sqrt{3}) = 0$

y (y − 1) − 3√3 (y − 1) = 0
So, y = 1, 3√3 (5.2)

418). B)
x2 + (3 + 2√2)x + 6√2 = 0
(x2 + 3x) + (2√2x + 6√2) = 0
x (x + 3) + 2√2 (x + 3) = 0
So x = -3, -2√2
5y2 − (1 + 5√2)y + √2 = 0
(5y2 − y) − (5√2y − √2) = 0
y (5y − 1) − 3√2 (5y − 1) = 0
So, y = 1/5, 3√2

419). D)
2x2 + (4 + 2√6)x + 4√6 = 0
(2x2 + 4x) + (2√6x + 4√6) = 0
2x (x + 2) + 2√6 (x + 2) = 0
So x = -2, -√6
5y2 + (10 + √6)y + 2√6 = 0
(5y2 + 10y) + (√6y + 2√6) = 0
5y (y + 2) + √6 (y + 2) = 0
So, y = -2, -√6/5

420). A)
I. 9a2 + 3a + 15a + 5 = 0
=>(3a + 5)(3a + 1) = 0 => a = -5/3, -1/3
II. 2b2 + 8b + 5b + 20 = 0
=>(2b + 5)(b + 4) = 0 => b = -5/2, -4
a is always more than b.
a > b.

421). In the following question two equations (A) and (B) given. You have to solve both:
a. 21a² - 20a - 9 = 0
b. 7b² - 23b + 18 = 0
i. If a > b
ii. If a < b
iii.If a = b or C.N.E
iv. If a > b
v. If a < b

422). In the following question two equations (A) and (B) given. You have to solve both:
a. 48a² + 2a -1 = 0
b. 6b² - 11b - 2 = 0
i. If a < b
ii. If a > b
iii.If a > b
iv. If a < b
v. If a = b or C.N.E

423). In the following question two equations (A) and (B) given. You have to solve both:
a. $9a^2 - 24a + 143 = 0$
b. $9b^2 + 50b - 91 = 0$
i. If a > b
ii. If a < b
iii. If a > b
iv. If a = b or C.N.E
v. If a < b

424). In the following question two equations (A) and (B) given. You have to solve both:
a. $36a^2 - 19a - 7 = 0$
b. $12b^2 - 5b - 2 = 0$
i. If a < b
ii. If a = b or C.N.E
iii. If a < b
iv. If a > b
v. If a > b

425). In the following question two equations (A) and (B) given. You have to solve both:
i. If a < b
ii. If a > b
iii. If a = b or C.N.E
iv. If a < b
v. If a > b

Directions (426-430): Two equations (I) and (II) are given in each questions. On the basis of these questions, you have to decide the relation between x and y 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.
426). I.$5x^2 - 87x + 378 = 0$
II.$3y^2 - 49y + 200 = 0$

427). I.$10x^2 - x - 24 = 0$
II.$y^2 - 2y = 0$

428). I.$x^2 - 5x + 6 = 0$
II.$2y^2 - 15y + 27 = 0$

429). I.$3x + 2y = 301$
II.$7x - 5y = 74$

430). I.$14x^2 - 37x + 24 = 0$
II.$28y^2 - 53y + 24 = 0$

421). E)

422). E)

423). C)

424). B)

425). C)

426). I. $5x^2 - 45x - 42x + 378 = 0$
or, $5x(x - 9) - 42(x - 9) = 0$
or. $(5x - 42)(x - 9) = 0$
x = 9, 42/5
II. $3y^2 - 24y - 25y + 200 = 0$
or, $3y(y - 8) - 25(y - 8) = 0$ or, $(y - 8)(3y - 25) = 0$
y = 8, 25/3
Hence, x>y
Answer: a)

427). I. $10x^2 - 16x + 15x - 24 = 0$
or, $2x(5x - 8) + 3(5x\ 8) = 0$
or, $(2x + 3)(5x + 8) = 0$
x = -3/2, 8/5
II. $y^2 - 2y = 0$
or, $y(y - 2) = 0$
y = 0, 2
ie no relationship exists between x and y.
Answer: e)

428). $x^2 - 2x - 3x + 6 = 0$
or, $x(x - 2) - 3(x - 2) = 0$
or, $(x - 2)(x - 3) = 0$
x = 2, 3
$2y^2 - 6y - 9y + 27 = 0$
or, $2y(y - 3) - 9(y - 3) = 0$
or, $(y - 3)(2y - 9) = 0$
y = 3, 9/2
hence, $x \le y$
Answer: d)

429). I. eqn (I) $\times$ 5 + eqn (II) $\times$ 2
$[15x + 10y = 1505] + [14x - 10y = 148] = 29x = 1653$
x = (1653/29) = 57
and y = 65
hence, x< y
Answer: b)

430).$14x^2 – 37x + 24 = 0$
or, $I4x^2– 21x- 16x + 24 = 0$
or, $7x(2x -3) -8(2x -3) = 0$
or, $(2x – 3)(7x – 8) = 0$
$x = (3/2), (8/7)$
II. $28y^2– 53y + 24 = 0$
or, $28y^2 -21y – 32y + 24 =0$
or, $7y(4y – 3) -8(4y – 3) = 0$
or, $(7y – 8) (4y – 3) = 0$
$y = 8/7, 3/4$
$x ≥ y$
Answer: c)

Directions (431-435) : In each of these questions, two equations (I) and (II) are given. You have to solve both the equations and give answer
431) I. $3x^2 – 29x + 56 = 0$
II. $3y^2 – 5y – 8 = 0$
(a) x> y
(b) x ≥ y
(c) x< y
(d) x ≤ y
(e) x = y or the relationship between 'x'and 'y'cannot be established.

432) I. $5x^2 + 26x – 24 = 0$
II. $5y^2 – 34y + 24 = 0$
(a) x> y
(b) x ≥ y
(c) x< y
(d) x ≤ y
(e) x = y or the relationship between 'x'and 'y'cannot be established.

433) I. $x^2– 7x = 0$
II. $2y^2 + 5y + 3 = 0$
(a) x> y
(b) x ≥ y
(c) x< y
(d) x ≤ y
(e) x = y or the relationship between 'x'and 'y'cannot be established.

434) I. $7x – 4y = 40$
II. $8x + 8y = 8$
(a) x> y
(b) x ≥ y
(c) x< y
(d) x ≤ y
(e) x = y or the relationship between 'x'and 'y'cannot be established.

435) I. $15x^2 – 41x + 14 = 0$
II. $2y^2 – 13y + 20 = 0$
(a) x> y

(b) x ≥ y

(c) x< y

(d) x ≤ y

(e) x = y or the relationship between 'x'and 'y'cannot be established.

(436-440) : In each of these questions, two equations (I) and (II) are given. You have to solve both the equations and give answer.

436) I. $x^2 - 8\sqrt{3}x + 45 = 0$

II. $y^2 - \sqrt{2}y - 24 = 0$

(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.

437) $x - 7\sqrt{2}x + 24 = 0$

II. $y - 5\sqrt{2}y + 12 = 0$

(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.

438). I. $12x^2 - 17x + 6 = 0$

II. $20y^2 - 31y + 12 = 0$

(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.

439). I. $3x^2 - 8x + 4 = 0$

II. $4y^2 - 15y + 9 = 0$

(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.

440). I. $x^2 - 16x + 63 = 0$

II. $y^2 - 2y - 35 = 0$

(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.

431). (b)

$3x^2 - 29x + 56 = 0$

or $3x^2 - 21x - 8x + 56 = 0$

or $3x(x - 7) - 8(x - 7) = 0$

or (3x – 8) (x – 7) = 0
x = , 7
II. 3y2 – 5y – 8 = 0
or 3y2 + 3y – 8y – 8 = 0
or 3y(y + 1) – 8(y + 1) = 0
or (3y – 8) (y + 1) = 0
or (3y – 8) (y + 1) = 0
y = -1,
x≥ y

432). (d)
5x2 + 26x – 24 = 0
or 5x2 + 30x – 4x – 24 = 0
or 5x(x + 6) – 4(x + 6) = 0
or (5x – 4) (x + 6) = 0
x = 4/5, 6
II. 5y2 – 30y – 4y + 24 = 0
or 5y(y – 6) – 4(y – 6) = 0
or (5y – 4) (y – 6) = 0 4
y =4/5 6
x≤y

433). (a)
x2 – 7x = 0
or x (x – 7) = 0
x = 0, 7
II. 2y2 + 5y + 3 = 0
or 2y2 + 2y + 3y + 3 = 0
or 2y(y + 1) + 3(y + 1) = 0
or (2y + 3) (y + 1) = 0
y = -1, -3/2
x > y

434). (a)
7x – 4y = 40 …(i)
and 8x + 8y = 8
or x+y= 1 …(ii)
Solving (i) and (ii), we have
x = 4, y = -3
x > y

435). (c)
15x2 – 4x + 14 = 0
or 15x2 – 6x – 35x + 14 = 0
or 3x(5x – 2) – 7(5x – 2) = 0

or $(3x - 7)(5x - 2) = 0$

$x = 7/3, 2/5$

II. $2y^2 - 13y + 20 = 0$

or $2y^2 - 8y - 5y + 20 = 0$

or $2y(y - 4) - 5(y - 4) = 0$

or $(2y - 5)(y - 4) = 0$

$y = 4, 5/2$

$x < y$

436). (e)

I. $x^2 - 8\sqrt{3}x + 45 = 0$

or $x^2 - 5\sqrt{3}x + 3\sqrt{3}(x - 5\sqrt{3}) = 0$

or, $(x + 3\sqrt{3})(x - 5\sqrt{3}) = 0$

$X = 3\sqrt{3}, 5\sqrt{3}$

II. $y^2 - \sqrt{2}y - 24 = 0$

Or $y^2 - 4\sqrt{2}y + 3\sqrt{2}y - 24 = 0$

Or $(y - 4\sqrt{2}y)(y + 2\sqrt{2})$

$y = -3\sqrt{2}, 4\sqrt{2}$

Hence relation cannot be established between x and y.

437). B)

$x - 7\sqrt{2}x + 24 = 0$

Or $x - 4\sqrt{2}x - 3\sqrt{2}x + 24 = 0$

Or $\sqrt{x}(\sqrt{x} - 4\sqrt{2}) - 3\sqrt{2}(\sqrt{x} - 4\sqrt{2}) = 0$

Or $(\sqrt{x} - 3\sqrt{2})(\sqrt{x} - 4\sqrt{2}) = 0$

Now, if $\sqrt{x} - 3\sqrt{2} = 0$

then $\sqrt{x} = 3\sqrt{2}$

$x = 9 \times 2 = 18$

If $\sqrt{x} - 4\sqrt{2} = 0$

then $\sqrt{x} = 4\sqrt{2}$

$x = 16 \times 2 = 32$

II. $y - 5\sqrt{2}y + 12 = 0$

$y - 3\sqrt{2}y - 2\sqrt{2}y + 12 = 0$

Or $\sqrt{y}(\sqrt{y} - 3\sqrt{2}) - 2\sqrt{2}y + 12 = 0$

Or $(\sqrt{y} - 2\sqrt{2}) - (\sqrt{y} - 3\sqrt{2}) = 0$

If $(\sqrt{y} - 2\sqrt{2}) = 0$

Then $\sqrt{y} = 2\sqrt{2}$

$y = 4 \ 2 = 18$

If $\sqrt{y} - 3\sqrt{2} = 0$

Then, $\sqrt{y} - \sqrt{2}$

$y = 9 \times 2 = 18$

$x \geq y$

438). (d)

$12x^2 - 17x + 6 = 0$

or $12x^2 - 9x - 8x + 6 = 0$
or $3x(4x - 3) - 2(4x - 3) = 0$
or $(3x - 2)(4x - 3) = 0$
If $3x - 2 = 0$
then $3x = 2$
x= 2/3
If $4x - 3 = 0$
then x = 3/4
II. $20y^2 - 31y + 12 = 0$
or $20y^2 - 16y - 15y + 12 = 0$
or $4y(5y - 4) - 3(5y - 4) = 0$
or $(4y - 3)(5y - 4) = 0$
y=3/4,4/5
Hence x ≤ y

439). (e)
$3x^2 - 8x + 4 = 0$
or $3x^2 - 6x - 2x + 4 = 0$
or $(3x - 2)(x - 2) = 0$
x=2,2/3
II. $4y^2 - 15y + 9 = 0$
or $4y^2 - 12y - 3y + 9 = 0$
or $4y(y - 3) - 3(y - 3) = 0$
or $(4y - 3)(y - 3) = 0$
y = 3/4, 3
Relation cannot be established between x and y.

440). (a)
I. $x^2 - 16x + 63 = 0$
or $x^2 - 9x - 7x + 63 = 0$
or $x(x - 9) - 7(x - 9) = 0$
or $(x - 7)(x - 9) = 0$
x = 7, 9
II. $y^2 - 2y - 35 = 0$
or $y^2 - 17y + 5y - 35 = 0$
or $y(y - 7) + 5(y - 7) = 0$
or $(y + 5)(y - 7) = 0$
y = -5, 7
Hence, x ≥ y

441). $x^2 + 6x + 9 = 0$
$y^2 + 2y - 35 = 0$
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y

E. X = Y or relation cannot be established

442). 2x² – 9x + 10 = 0
y² – 18y + 72 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

443). 2x² + 11x + 12 = 0
y² – 14y + 48 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

444). x² – 11x + 30 = 0
y² – 4y – 12 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

445). 13x² – 32x – 21 = 0
8y² + 6y – 5 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

446). 17x² + 48x – 9 = 0
y² – 2y – 15 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

447). 18x² + 18x + 4 = 0
12y² – 22y + 8 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

448). 16x² + 20x + 6 = 0
y² + 15y + 56 = 0

A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

449). 12x² + 29x + 14 = 0
y² + 9y + 18 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

450). x² – 8x + 15 = 0
y² – 13y + 40 = 0
A. X > Y
B. X < Y
C. X ≥ Y
D. X ≤ Y
E. X = Y or relation cannot be established

441). E.
X = Y or relation cannot be established
(x + 3) (x + 3) = 0
x = – 3, – 3
y² + 2y – 35 = 0
y = -7, 5

442). B.
X < Y
2x² – 9x + 10 = 0
x = 2.5, 2
y² – 18y + 72 = 0
y = 12, 6

443). B.
X < Y
2x² + 11x + 12 = 0
x = – 4, – 1.5
y² – 14y + 48 = 0
y = 6, 8

444). E.
X = Y or relation cannot be established
x² – 11x + 30 = 0
x = 5, 6

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

$y = 6, -2$

445). E.

X = Y or relation cannot be established

$13x^2 - 32x - 21 = 0$

x = 3, -0.5

$8y^2 + 6y - 5 = 0$

y = -1.25, 0.5

446). E.

X = Y or relation cannot be established

$17x^2 + 48x - 9 = 0$

x = -3, 0.1

$y^2 - 2y - 15 = 0$

y = 5, -3

447). B.

X < Y

$18x^2 + 18x + 4 = 0$

x = -0.6, -0.3

$12y^2 - 22y + 8 = 0$

y = 0.13, 0.5

448). A.

X > Y

$16x^2 + 20x + 6 = 0$

x = – 0.25, – 1.5

$y^2 + 15y + 56 = 0$

y = -8, -7

449). A.

X > Y

$12x^2 + 29x + 14 = 0$

x = – 1.75, – 0.6

$y^2 + 9y + 18 = 0$

y = -6, -3

450). D.

X ≤ Y

$x^2 - 8x + 15 = 0$

x = 5, 3

$y^2 - 13y + 40 = 0$

y = 8, 5

Direction(451-460)Find The Relationship Between X And Y By Solving Given Equations:
a) X>Y
b) X ≥ Y
c) X<Y
d) X ≤ Y
e) X=Y RELATIONSHIP CANNOT BE ESTABLISHED

451) $X^2 – 51x-630=0$
$Y^2+ 52y-640=0$

452). 2) $X^2+33x+540=0$
$Y^2+36y+320=0$

453). 3)$X^2-456=1569$
$Y^2-91y+2070=0$

454) $X^2-259=1037$
$Y^2-359=1241$

455). $X^3-1650=7611$
$Y^3-2013=2900$

456). $X^3=\sqrt[3]{29791}$
$Y^3=\sqrt[3]{91125}$

457). $X^2-11\sqrt{6}+180=0$
$Y^2-15\sqrt{6}+324=0$

458). $X^2-2\sqrt{5} -175=0$
$Y^2-17\sqrt{5}+360$

459). $2x^2-3x-20=0$
$3y^2+11y+10=0$

460). $X^2+7\sqrt{7}x+84=0$
$Y^2+4\sqrt{8}y-96=0$

451). A)
$X^2 – 51x-630=0$
$(X-30)(X-21)=0$
X=30,21
$Y^2+ 52y-640=0$
$(Y+32)(Y+20)=0$
Y=-32,-20

452). E)
$X^2+33x+540=0$
$(X-12)(X+45)=0$
X=12,-45
$Y^2+36y+320=0$

(Y+16)(Y+20)=0
Y=-16,-20

453). D)
X^2 - 456=1569
X^2=2025
X=±45
Y^2-91y+2070=0
(Y-45)(Y-46)=0
Y=45,46

454). E)
X^2-259=1037
X^2=1296
X=±36
Y^2-359=1241
Y^2=1600
Y=±40

455). A)
X^3-1650=7611
X^3=9261
X=21
Y^3-2013=2900
Y^3=4913
Y=17

456). C)
$X^3=\sqrt[3]{29791}$
X=31
$Y^3=\sqrt[3]{91125}$
Y=45
X>Y

457). D)
X^2-11√6+180=0
(X-5√6)(X-6√6)=0
X=5√6,6√6
Y^2-15√6+324=0
(Y-6√6)(Y-9√6)=0
Y=6√6,9√6
X ≤Y

458). C)
X^2-2√5 -175=0

$(X+5\sqrt{5})(X-7\sqrt{5})=0$

$X=-5\sqrt{5},7\sqrt{5}$

$Y^2-17\sqrt{5}+360=0$

$(Y-8\sqrt{5})(Y-9\sqrt{5})=0$

$Y=8\sqrt{5},9\sqrt{5}$

459). E)

$2x^2-3x-20=0$

$(X-4)(X+2.5)=0$

$X=4,-2.5$

$3y^2+11y+10=0$

$(Y+2)(Y+1.6)=0$

$Y=-2,-1.6$

460). E)

$X^2+7\sqrt{7}x+84=0$

$(X+3\sqrt{7})(X+4\sqrt{7})=0$

$X=-3\sqrt{7},-4\sqrt{7}$

$Y^2+4\sqrt{8}y-96=0$

$(Y+6\sqrt{8})(Y-2\sqrt{8})=0$

$Y=-6\sqrt{8},2\sqrt{8}$

Directions(461-465): In each of these questions two equations numbered I and II are given. You have to solve both the equations and give answer.

461) I. $x^2-32x+256=0$

II. $y^2-33y+272=0$

A. x < y

B. x ≤ y

C. x > y

D. x ≥ y

E. If either x=y or the relationship can't be established

462) I. $3x-4y+9=0$

I. $7x-7y-7=0$

A. x < y

B. x ≤ y

C. x > y

D. x ≥ y

E. If either x=y or the relationship can't be established

463) I. $x^2-2x-15=0$

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

A. x < y

B. x ≤ y

C. x > y

D. x ≥ y

E. If either x=y or the relationship can't be established

464) I. $4x^2-8x+3=0$
II. $4y^2+8y+3=0$
A. x < y
B. x ≤ y
C. x > y
D. x ≥ y
E. If either x=y or the relationship can't be established

465) I. $2x^2-3x+1=0$
II. $2y^2-4y+2=0$
A. x < y
B. x ≤ y
C. x > y
D. x ≥ y
E. If either x=y or the relationship can't be established

Directions(466-470): In each of these questions two equations numbered I and II are given. You have to solve both the equations and give answer.
406) I. $3x^2+12x-180=0$
II. $2y^2+4y-96=0$
A. x < y
B. x ≤ y
C. If either x=y or the relationship can't be established
D. x > y
E. x ≥ y

467) I. $36x^2+30x+6=0$
II.$45y^2+24y+3=0$
A. x < y
B. x ≤ y
C. If either x=y or the relationship can't be established
D. x > y
E. x ≥ y

468) I. $2x^2-9x+9=0$
I. $y^2-11y+24=0$
A. x < y
B. x ≤ y
C. If either x=y or the relationship can't be established
D. x > y
E. x ≥ y

469) I. $x^2-13x+40=0$
II. $y^2+9y+18=0$

A. x < y
B. x ≤ y
C. If either x=y or the relationship can't be established
D. x > y
E. x ≥ y

470) I. $42x^2-162x-24=0$
II. $12y^2+24y-288=0$
A. x < y
B. x ≤ y
C. If either x=y or the relationship can't be established
D. x > y
E. x ≥ y

461) B
I. $x^2-32x +256 =0$
=> $(x-16)^2 =0$
=> x = 16,16
and II. $y^2– 33y + 272 =0$
=> (y-16)(y-17)=0
=> y =16,17
So, x ≤ y
Hence, option B

462) C
Solving I and II, we get
x = 13 and y =12
So, x > y. **Hence, option C**

463) E
I. $x^2-2x -15 =0$
=>$x^2-5x +3x -15 =0$
=> (x-5)(x+3) =0
=> x= 5, -3
II. $y^2 – 9y +14 =0$
=>$y^2 – 2y -7y +14 =0$
=>(y -2)(y-7) =0
=>y = 2,7
So, relation between x and y is not determined.
Hence, option e.

464) C

I. $4x^2 - 8x + 3 = 0$

$\Rightarrow 4(x^2 - 2x + \dfrac{3}{4}) = 0$

$\Rightarrow x^2 - 2x + \dfrac{3}{4} = 0$

$\Rightarrow (x - \frac{1}{2})(x - \dfrac{3}{2}) = 0$

$\Rightarrow x = \frac{1}{2}, \dfrac{3}{2}$

II. $4y^2 + 8y + 3 = 0$

$\Rightarrow y^2 + 2y + \dfrac{3}{4} = 0$

$\Rightarrow (y + \dfrac{1}{2})(y + \dfrac{3}{2}) = 0$

$\Rightarrow y = -1/2 \text{ and } -\dfrac{3}{2}$

Hence, option c.

465) B

I. $2x^2 - 3x + 1 = 0$

$\Rightarrow x^2 - \dfrac{3}{2}x + \dfrac{1}{2} = 0$

$\Rightarrow x(x - \dfrac{1}{2}) - 1(x - \dfrac{1}{2}) = 0$

$\Rightarrow (x-1)(x - \dfrac{1}{2}) = 0$

$\Rightarrow x = 1, \dfrac{1}{2}$

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

$\Rightarrow y^2 - 2y + 1 = 0$

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

$\Rightarrow y = 1$

So, $y \geq x$.

Hence, option b.

466) C

From I,

$x^2 + 4x - 60 = 0$

$x^2 - 6x + 10x - 60 = 0$

$x(x - 6)+10(x - 6) = 0$

$(x - 6)(x + 10) = 0$

x = 6 or -10

From II,

$y^2 + 2y - 48 = 0$

$y^2 - 6y + 8y - 48 = 0$

$y(y - 6)+8(y - 6) = 0$

$(y - 6)(y + 8) = 0$

y = -8 or 6

So, no relationship can be established between x and y. **Hence, option c.**

467) B

From I,

$6x^2 + 5x + 1 = 0$

$6x^2 + 3x + 2x + 1 = 0$

$3x(2x + 1) + 1(2x + 1) = 0$

$(3x + 1)(2x + 1) = 0$

x = -1/3 or -1/2

From II,

$15y^2 + 8y + 1 = 0$

$15y^2 + 5y + 3y + 1 = 0$

$5y(3y + 1) + 1(3y + 1) = 0$

$(5y + 1)(3y + 1) = 0$

y = -1/5 or -1/3

So, y≥x. **Hence, option b.**

468) B

From I,

$2x^2 - 6x - 3x + 9 = 0$

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

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

x = 3/2 or 3

From II,

$y^2 - 3y - 8y + 24 = 0$

$y(y - 3)-8(y - 3) = 0$

$(y - 3)(y - 8) = 0$

y = 3 or 8

So, y ≥ x. **Hence, option b**

469) D

From I,

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

$x(x - 5)-8(x - 5) = 0$

$(x - 5)(x - 8) = 0$

x = 5 or 8
From II,
$y^2 + 3y + 6y + 18 = 0$
$y(y + 3)+6(y + 3) = 0$
$(y + 3)(y + 6) = 0$
y = -3 or -6
So, x > y. **Hence, option d.**

470) C
From I,
$7x^2 - 27x - 4 = 0$
$7x^2 - 28x + x - 4 = 0$
$7x(x - 4) + 1(x - 4) = 0$
$(x - 4)(7x + 1) = 0$
x = -1/7 or 4
From II,
$y^2 + 2y - 24 = 0$
$y^2 - 4y + 6y - 24 = 0$
$y(y - 4)+6(y - 4) = 0$
$(y - 4)(y + 6) = 0$
y = 4 or -6
So, no relationship can be established between x
and y. **Hence, option c.**

Directions(471-480): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-
471) I. $20x^2 - 31x + 12 = 0$,
II. $6y^2 - 7y + 2 = 0$
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

472) I. $3x^2 + 22 x + 24 = 0$,
II. $3y^2 - 10y + 3 = 0$
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

473) I. $6x^2 - x - 2 = 0$,
II. $5y^2 - 18y + 9 = 0$
A) If x > y
B) If x < y
C) If x ≥ y

D) If x ≤ y
E) If x = y or relation cannot be established

474) I. $x^2 - x - 6 = 0$,
II. $5y^2 - 7y - 6 = 0$
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

475) I. $3x^2 - 10x + 8 = 0$,
II. $3y^2 + 8y - 16 = 0$
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

476) I. $2x^2 + 17x + 30 = 0$,
II. $2y^2 + 13y + 18 = 0$
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

477) I. $3x^2 + 16x + 20 = 0$,
II. $3y^2 + 8y + 4 = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relationship cannot be determined

478) **I. $x^2 + x - 20 = 0$,**
II. $2y^2 + 13y + 15 = 0$
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

479) I. $5x^2 - 7x - 6 = 0$,
II. $5y^2 + 23y + 12 = 0$
A) If x > y
B) If x < y
C) If x ≥ y
D) If x ≤ y
E) If x = y or relation cannot be established

480) I. $2x^2 - 9x + 4 = 0$,
II. $2y^2 + 7y - 4 = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relationship cannot be determined

471) A) If x > y
Solution:
$20x^2 - 31x + 12 = 0$
$20x^2 - 16x - 15x + 12 = 0$
So x = 3/4, 4/5
$6y^2 - 7y + 2 = 0$
$6y^2 - 3y - 4y + 2 = 0$
So y = 1/2, 2/3
Put on number line
1/2… 2/3… 3/4… 4/5

472) B) If x < y
Solution:
$3x^2 + 22 x + 24 = 0$
$3x^2 + 18x + 4x + 24 = 0$
So x = -4/3, -6
$3y^2 - 10y + 3 = 0$
$3y^2 - 9y - y + 3 = 0$
So y = 1/3, 3
Put on number line
-6… -4/3… 1/3… 3

473) E) If x = y or relation cannot be established
Solution:
$6x^2 - x - 2 = 0$
$6x^2 + 3x - 4x - 2 = 0$
So x = -1/2, 2/3
$5y^2 - 18y + 9 = 0$
$5y^2 - 15y - 3y + 9 = 0$
So y = 3/5, 3
Put on number line
-1/2 …. 3/5 ….2/3 …. 3

474) E) If x = y or relation cannot be established
Solution:
$x^2 - x - 6 = 0$
$x^2 - 2x + 3x - 6 = 0$
So x = -3, 2

$5y^2 - 7y - 6 = 0$
$5y^2 - 10y + 3y - 6 = 0$
So y = -3/5, 2
Put on number line
-3 …. -3/5….. 2

475) C) If x ≥ y
Solution:
$3x^2 - 10x + 8 = 0$
$3x^2 - 6x - 4x + 8 = 0$
So x = 2, 4/3
$3y^2 + 8y - 16 = 0$
$3y^2 + 12y - 4y - 16 = 0$
So y = -4, 4/3
Put on number line
-4 …. 4/3…. 2

476) E) If x = y or cannot be established
Solution:
$2x^2 + 17x + 30 = 0$
$2x^2 + 12x + 5x + 30 = 0$
So x = -6, -5/2
$2y^2 + 13y + 18 = 0$
$2y^2 + 4y + 9y + 18 = 0$
So y = -9/2, -2
Put on number line
-6 … -9/2 …. -5/2 …. -2

477) D) If x ≤ y
Solution:
$3x^2 + 16x + 20 = 0$
$3x^2 + 6x + 10x + 20 = 0$
So x = -10/3, -2
$3y^2 + 8y + 4 = 0$
$3y^2 + 6y + 2y + 4 = 0$
So y = -2, -2/3
put on number line
-10/3…. -2…. -2/3

478) E) If x = y or relation cannot be established
Solution:
$x^2 + x - 20 = 0$
(x+5)(x-4) = 0
So x = -5, 4
$2y^2 + 13y + 15 = 0$

$2y^2 + 10y + 3y + 15 = 0$
So y = -5, -3/2
Put on number line
-5…. -3/2…. 4

479) C) If x ≥ y
Solution:
$5x^2 – 7x – 6 = 0$
$5x^2 – 10x + 3x – 6 = 0$
So x = -3/5, 2
$5y^2 + 23y + 12 = 0$
$5y^2 + 20y + 3y + 12 = 0$
So y = -4, -3/5
Put on number line
-4….. -3/5…. 2

480) C) If x ≥ y
Solution:
$2x^2 – 9x + 4 = 0$
$2x^2 – 8x – x + 4 = 0$
So x = 4 , 1/2
$2y^2 + 7y – 4 = 0$
$2y^2 + 8y – y – 4 = 0$
So y = -4, 1/2
Put on number line
-4……. 1/2…… 4

Directions(481-490): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-
481) I. $4x^2 + 27x + 18 = 0$,
II. $2y^2 – 7y + 3 = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

482) I. $3x^2 – 2x – 8 = 0$,
II. $6y^2 – 17y + 10 = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

483) I. $3^2 + 11x + 6 = 0$,
II. $5y^2 + 16y + 3 = 0$

A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

484) I. $4x^2 – 11x + 6 = 0$,
II. $6y^2 – 29y + 28 = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

485) I. $3x^2 – 25x + 52 = 0$,
II. $3y^2 – 8y – 16 = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

486) I. $8x^2 + 10x + 3 = 0$,
II. $3y^2 + 70y + 40 = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

487) I. $50x^2 - 95x + 42 = 0$,
II. $50y^2 – 65y + 21 = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relationship cannot be determined

488) I. $5x^2 – 13x + 6 = 0$,
II. $3y^2 – 22y – 35 = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relation cannot be established

489)I. $3x^2 – 4x – 15 = 0$,
II. $5y^2 – 11y – 18 = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y

E) x = y or relation cannot be established

490) I. $2x^2 + 5x – 12 = 0$,
II. $2y^2 – 19y + 35 = 0$
A) x > y
B) x < y
C) x ≥ y
D) x ≤ y
E) x = y or relationship cannot be determined

481) Option B
Solution:
$4x^2 + 27x + 18 = 0$
$4x^2 + 24x + 3x + 18 = 0$
So x = -3/4, -6
$2y^2 – 7y + 3 = 0$
$2y^2 – 6y – y + 3 = 0$
So y = 1/2, 3
Put all values on number line and analyze the relationship
-6… -3/4… 1/2… 3

482) Option D
Solution:
$3x^2 – 2x – 8 = 0$
$3x^2 – 6x + 4x – 8 = 0$
So x = -4/3, 2
$6y^2 – 17y + 10 = 0$
$6y^2 – 12y – 5y + 10 = 0$
So y = 5/6, 2
Put all values on number line and analyze the relationship
-4/3… 2… 5/6

483) Option E
Solution:
$3^2 + 11x + 6 = 0$
$3^2 + 9x + 2x + 6 = 0$
So x = -3, -2/3
$5y^2 + 16y + 3 = 0$
$5y^2 + 15y + y + 3 = 0$
So y = -1/5, -3
Put all values on number line and analyze the relationship
-3 …. -2/3 ….-1/5
Since the common value (-3) is not in between other 2 values, there is no relationship between x and y.

484) Option E
Solution:
$4x^2 – 11x + 6 = 0$

$4x^2 – 8x – 3x + 6 = 0$
So x = 3/4, 2
$6y^2 – 29y + 28 = 0$
$6y^2 – 8y – 21y + 28 = 0$
So y = 4/3, 7/2
Put all values on number line and analyze the relationship
3/4 …. 4/3….. 2…. 7/2

485) Option C
Solution:
$3x^2 – 25x + 52 = 0$
$3x^2 – 12x – 13x + 52 = 0$
So x = 4, 13/3
$3y^2 – 8y – 16 = 0$
$3y^2 – 12y + 4y – 16 = 0$
So y = 4, -4/3
Put all values on number line and analyze the relationship
-4/3 …. 4…. 13/3

486) Option A
Solution:
$8x^2 + 10x + 3 = 0$
$8x^2 + 4x + 6x + 3 = 0$
So x = -3/4, -1/2
$3y^2 + 70y + 40 = 0$
$3y^2 + 30y + 40y + 40 = 0$
So y = -10, -4/3
Put all values on number line and analyze the relationship
-10 … -4/3 …. -3/4 …. -1/2

487) Option C
Solution:
$50x^2 - 95x + 42 = 0$
$50x^2 - 60x – 35x + 42 = 0$
So x = 7/10, 6/5
$50y^2 – 65y + 21 = 0$
$50y^2 – 65y + 21 = 0$
So y = 3/5, 7/10
Put all values on number line and analyze the relationship
3/5…. 7/10…. 6/5

488) Option B
Solution:
$5x^2 – 13x + 6 = 0$
$5x^2 – 10x – 3x + 6 = 0$

So x = 3/5, 2

$3y^2 – 22y – 35 = 0$

$3y^2 – 15y – 7y – 35 = 0$

So y = 7/3, 5

Put all values on number line and analyze the relationship

3/5…. 2…. 7/3… 5

489) Option E

Solution:

$3x^2 – 4x – 15 = 0$

$3x^2 – 9x + 5x – 15 = 0$

So x = -5/3, 3

$5y^2 – 11y – 18 = 0$

$5y^2 – 15y + 6y – 18 = 0$

So y = -6/5, 3

Put all values on number line and analyze the relationship

-5/3….. -6/5…. 3

Since the common value (3) is not in between other 2 values, there is no relationship between x and y.

490) Option B

Solution:

$2x^2 + 5x ¬– 12 = 0$

$2x^2 + 8x ¬– 3x – 12 = 0$

So x = -4 , 3/2

$2y^2 – 19y + 35 = 0$

$2y^2 – 14y – 5y + 35 = 0$

So y = 5/2, 7

Put all values on number line and analyze the relationship

-4……. 3/2…… 5/2…

Directions(491-500): In the following questions, two equations numbered are given in variables x and y. You have to solve both the equations and find out the relationship between x and y. Then give answer accordingly-

A) x> y

B) x < y

C) x ≥ y

D) x ≤ y

E) x = y or relationship cannot be determined

491) I. $3x^2 + 20x + 32 = 0$,

II. $3y^2 – 4y – 4 = 0$

492) I. $4x^2 – 12x + 5 = 0$,

II. $6y^2 – 13y + 6 = 0$

493) I. $3^2 – 14x + 16 = 0$,

II. $4y^2 – 5y – 6 = 0$

494) I. $5x^2 - 8x - 4 = 0$,
II. $5y^2 - 23y - 10 = 0$

495) I. $3x^2 + 13x + 14 = 0$,
II. $4y^2 + 9y + 2 = 0$

496) I. $3x^2 + 8x + 5 = 0$,
II. $5y^2 - 7y - 6 = 0$

497) I. $3x^2 \neg\neg+ 16x + 20 = 0$,
II. $3y^2 + 14y + 16 = 0$

498) I. $4x^2 - 9x + 2 = 0$,
II. $3y^2 - 16y + 21 = 0$

499) I. $3x^2 + 5x + 2 = 0$,
II. $3y^2 + 11y + 10 = 0$

500) I. $4x^2 - 9x + 2 = 0$,
II. $2y^2 - 19y + 35 = 0$

491) Option B
Solution:
$3x^2 + 20x + 32 = 0$
$3x^2 + 12x + 8x + 32 = 0$
So x = -4, -8/3
$3y^2 - 4y - 4 = 0$
$3y^2 - 6y + 2y - 4 = 0$
So y = -2/3, 2
Put all values on number line and analyze the relationship
-4… -8/3… -2/3… 2

492) Option E
Solution:
$4x^2 - 12x + 5 = 0$
$4x^2 - 2x - 10x + 5 = 0$
So x = ½, 5/2
$6y^2 - 13y + 6 = 0$
$6y^2 - 4y - 9y + 6 = 0$
So y = 2/3, 3/2
Put all values on number line and analyze the relationship
1/2… 2/3… 3/2…. 5/2

493) Option C
Solution:
$3^2 - 14x + 16 = 0$
$3^2 - 6x - 8x + 16 = 0$
So x = 8/3, 2

$4y^2 - 5y - 6 = 0$
$4y^2 - 8y + 3y - 6 = 0$
So y = -3/4, 2
Put all values on number line and analyze the relationship
-3/4 …. 2 ….8/3

494) Option E
Solution:
$5x^2 - 8x - 4 = 0$
$5x^2 - 10x + 2x - 4 = 0$
So x = -2/5, 2
$5y^2 - 23y - 10 = 0$
$5y^2 - 25y + 2y - 10 = 0$
So y = -2/5, 5
Put all values on number line and analyze the relationship
-2/5 …. 2….. 5

495) Option D
Solution:
$3x^2 + 13x + 14 = 0$
$3x^2 + 6x + 7x + 14 = 0$
So x = -7/3, -2
$4y^2 + 9y + 2 = 0$
$4y^2 + 8y + y + 2 = 0$
So y = -2, -1/4
Put all values on number line and analyze the relationship
-7/3 …. -2…. -1/4

496) Option B
Solution:
$3x^2 + 8x + 5 = 0$
$3x^2 + 3x + 5x + 5 = 0$
So x = -5/3, -1
$5y^2 - 7y - 6 = 0$
$5y^2 - 7y - 6 = 0$
So y = -3/5, 2
Put all values on number line and analyze the relationship
-5/3…. -1…. -3/5…. 2

497) Option E
Solution:
$3x^2 ¬¬+ 16x + 20 = 0$
$3x^2 ¬¬+ 6x + 10x + 20 = 0$
So x = -10/3, -2
$3y^2 + 14y + 16 = 0$

$3y^2 + 6y + 8y + 16 = 0$
So y = -8/3, -2
Put all values on number line and analyze the relationship
-10/3…. -8/3…. -2

498) Option B
Solution:
$4x^2 – 9x + 2 = 0$
$4x^2 – 8x – x + 2 = 0$
So x = 1/4, 2
$3y^2 – 16y + 21 = 0$
$3y^2 – 9y – 7y + 21 = 0$
So y = 7/3, 3
Put all values on number line and analyze the relationship
1/4…. 2…. 7/3… 3

499) **Option A**
Solution:
$3x^2 + 5x + 2 = 0$
$3x^2 + 3x + 2x + 2 = 0$
So x = -1, -2/3
$3y^2 + 11y + 10 = 0$
$3y^2 + 6y + 5y + 10 = 0$
So y = -2, -5/3
Put all values on number line and analyze the relationship
-2….. -5/3…. -1….. -2/3

500) Option B
Solution:
$4x^2 – 9x + 2 = 0$
$4x^2 – 8x – x + 2 = 0$
So x = 1/4, 2
$2y^2 – 19y + 35 = 0$
$2y^2 – 14y – 5y + 35 = 0$
So y = 5/2, 7
Put all values on number line and analyze the relationship
1/4……. 2…… 5/2…7