

Quadratic Equation

Questions & Solution

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Quadratic Equation Questions With Solution

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-

1. I. $12x^2 + 25x + 12 = 0$
 II. $4y^2 - 5y - 6 = 0$
 - A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

Option D

Solution:

$$x = -\frac{4}{3}, -\frac{3}{4}$$

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

Put all values on number line and analyze the relationship

$$-\frac{4}{3} \dots \dots -\frac{3}{4} \dots \dots 2$$

2. I. $3x^2 - 19x + 28 = 0$
 II. $6y^2 + 11y - 7 = 0$
 - A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

Option A

Solution:

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

$$y = \frac{1}{2}, -\frac{7}{3}$$

Put all values on number line and analyze the relationship

$$-\frac{7}{3} \dots \dots \frac{1}{2} \dots \dots \frac{7}{3} \dots \dots 4$$

3. I. $2x^2 - 3x - 9 = 0$
 II. $3y^2 - y - 10 = 0$
 - A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$

- E) If $x = y$ or relation cannot be established

Option E

Solution:

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

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

Put all values on number line and analyze the relationship

$$-\frac{5}{3} \dots \dots -\frac{3}{2} \dots \dots 2 \dots \dots 3$$

4. I. $4x^2 + 17x + 15 = 0$

II. $6y^2 + 23y + 21 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established



Option E

Solution:

$$x = -3, -\frac{5}{4}$$

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

Put all values on number line and analyze the relationship

$$-3 \dots \dots -\frac{7}{3} \dots \dots -\frac{3}{2} \dots \dots -\frac{5}{4}$$

5. I. $4x^2 - 19x + 12 = 0$

II. $2y^2 - 17y + 36 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option D

Solution:

$$x = \frac{3}{4}, 4$$

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

Put all values on number line and analyze the relationship

$$\frac{3}{4} \dots \dots 4 \dots \dots \frac{9}{2}$$

6. I. $3x^2 + 13x + 14 = 0$
 II. $3y^2 + y - 10 = 0$
- A) If $x > y$
 B) If $x < y$
 C) If $x \geq y$
 D) If $x \leq y$
 E) If $x = y$ or relation cannot be established

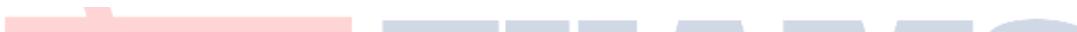
Option D**Solution:**

$$x = -7/3, -2$$

$$y = -2, 5/3$$

Put all values on number line and analyze the relationship

$$-7/3 \dots \dots -2 \dots \dots 5/3$$

- 
7. I. $2x^2 - 19x + 42 = 0$
 II. $3y^2 - 17y - 6 = 0$
- A) $x > y$
 B) $x < y$
 C) $x \geq y$
 D) $x \leq y$
 E) $x = y$ or relationship cannot be determined
- 

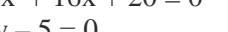
Option E**Solution:**

$$x = 7/2, 6$$

$$y = -1/3, 6$$

Put all values on number line and analyze the relationship

$$-1/3 \dots \dots 7/2 \dots \dots 6$$

- 
8. I. $3x^2 + 16x + 20 = 0$
 II. $3y^2 - 14y - 5 = 0$
- A) If $x > y$
 B) If $x < y$
 C) If $x \geq y$
 D) If $x \leq y$
 E) If $x = y$ or relation cannot be established
- 

Option B**Solution:**

$$x = -2, -10/3$$

$$y = -1/3, 5$$

Put all values on number line and analyze the relationship

$$-10/3 \dots -2 \dots -1/3 \dots 5$$

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

II. $6y^2 - 35y + 50 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option A**Solution:**

$$x = 4, 9/2$$

$$y = 5/2, 10/3$$

Put all values on number line and analyze the relationship

$$5/2 \dots 10/3 \dots 4 \dots 9/2$$

10. I. $3x^2 + 4x - 39 = 0$

II. $2y^2 - 15y + 27 = 0$

- A) $x > y$
- B) $x < y$
- C) $x \geq y$
- D) $x \leq y$
- E) $x = y$ or relationship cannot be determined

Option D**Solution:**

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

$$y = 3, 9/2$$

Put all values on number line and analyze the relationship

$$-13/3 \dots 3 \dots 9/2$$

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-

1. I. $3x^2 - 4x - 4 = 0$,

II. $3y^2 + 17y + 10 = 0$

- A) If $x > y$
- B) If $x < y$

- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option C**Solution:**

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

$$y = -5, -2/3$$

Put all values on number line and analyze the relationship

$$-5 \dots -2/3 \dots 2$$

- 2.
- I. $3x^2 - 15x + 12 = 0$,
 - II. $3y^2 - 19y + 20 = 0$
 - A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

**Option E****Solution:**

$$x = 4/3, 3$$

$$y = 4/3, 5$$

Put all values on number line and analyze the relationship

$$4/3 \dots 3 \dots 5$$

- 3.
- I. $2x^2 - 17x + 35 = 0$,
 - II. $3y^2 - 4y - 15 = 0$
 - A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

Option A**Solution:**

$$x = 7/2, 5$$

$$y = -5/3, 3$$

Put all values on number line and analyze the relationship

$$-5/3 \dots 3 \dots 7/2 \dots 5$$

4. I. $3x^2 - 4x - 15 = 0$,
 II. $3y^2 - 23y + 30 = 0$
- A) If $x > y$
 B) If $x < y$
 C) If $x \geq y$
 D) If $x \leq y$
 E) If $x = y$ or relation cannot be established

Option E**Solution:**

$$x = -5/3, 3$$

$$y = 5/3, 6$$

Put all values on number line and analyze the relationship

$$-5/3 \dots 5/3 \dots 3 \dots 6$$

5. I. $3x^2 - 5x - 28 = 0$,
 II. $2y^2 - 17y + 36 = 0$
- A) If $x > y$
 B) If $x < y$
 C) If $x \geq y$
 D) If $x \leq y$
 E) If $x = y$ or relation cannot be established

Option D**Solution:**

$$x = -7/3, 4$$

$$y = 4, 9/2$$

Put all values on number line and analyze the relationship

$$-7/3 \dots 4 \dots 9/2$$

6. I. $3x^2 - 17x + 20 = 0$
 II. $3y^2 + y - 10 = 0$
- A) If $x > y$
 B) If $x < y$
 C) If $x \geq y$
 D) If $x \leq y$
 E) If $x = y$ or relation cannot be established

Option C**Solution:**

$$x = 5/3, 4$$

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

Put all values on number line and analyze the relationship

-2..... $\frac{5}{3}$4

7. I. $2x^2 + 17x + 36 = 0$,

II. $3y^2 - 17y - 6 = 0$

- A) $x > y$
- B) $x < y$
- C) $x \geq y$
- D) $x \leq y$
- E) $x = y$ or relationship cannot be determined

Option B

Solution:

$$x = -9/2, -4$$

$$y = -1/3, 6$$

Put all values on number line and analyze the relationship

$-9/2$-4..... $-1/3$6

8. I. $2x^2 - 13x + 20 = 0$,

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

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option A

Solution:

$$x = 5/2, 4$$

$$y = -9/2, 2$$

Put all values on number line and analyze the relationship

$-9/2$2..... $5/2$4

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

II. $3y^2 - 28y + 64 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option E

Solution:

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

$$y = 4, \frac{16}{3}$$

Put all values on number line and analyze the relationship

$$4 \dots \dots \frac{9}{2} \dots \dots \frac{16}{3}$$

10. I. $3x^2 - 2x - 21 = 0$,

II. $2y^2 - 15y + 27 = 0$

- A) $x > y$
- B) $x < y$
- C) $x \geq y$
- D) $x \leq y$
- E) $x = y$ or relationship cannot be determined



Option D

Solution:

$$x = -\frac{7}{3}, 3$$

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

Put all values on number line and analyze the relationship

$$-\frac{7}{3} \dots \dots 3 \dots \dots \frac{9}{2}$$

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-

1. I. $15x^2 - 34x + 15 = 0$,
II. $4y^2 - 29y + 45 = 0$
 - A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

Option B

Solution:

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

$$y = 2.25, 5$$

Put all values on number line and analyze the relationship

$$\frac{3}{5} \dots \dots \frac{5}{3} \dots \dots 2.25 \dots \dots 5$$

2. I. $x^2 - 21x + 104 = 0$,
II. $y^2 - 28y + 195 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established

Option D

Solution:

$$x = 13, 8$$

$$y = 13, 15$$

Put all values on number line and analyze the relationship

$$8 \dots \dots \dots 13 \dots \dots \dots 15$$

3. I. $4x^2 - 9x - 9 = 0$,
II. $2y^2 - 17y + 21 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established



Option E

Solution:

$$x = -\frac{3}{4}, 3$$

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

Put all values on number line and analyze the relationship

$$-\frac{3}{4} \dots \dots \frac{3}{2} \dots \dots 3 \dots \dots \dots 7$$

4. I. $5x^2 - 26x + 21 = 0$,
II. $3y^2 - 8y - 16 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established

Option E

Solution:

$$x = 1, \frac{21}{5}$$

$$y = -\frac{4}{3}, 4$$

Put all values on number line and analyze the relationship

$$-\frac{4}{3} \dots\dots\dots 1 \dots\dots\dots 4 \dots\dots\dots \frac{21}{5}$$

5. I. $2x^2 - 23x + 21 = 0$,

II. $3y^2 - 19y + 28 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option E

Solution:

$$x = 2, \frac{21}{2}$$

$$y = \frac{7}{3}, 4$$

Put all values on number line and analyze the relationship

$$2 \dots\dots\dots \frac{7}{3} \dots\dots\dots 4 \dots\dots\dots \frac{21}{2}$$



6. I. $5x^2 + 11x - 12 = 0$

II. $4y^2 - 20y + 21 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option B

Solution:

$$x = -3, \frac{4}{5}$$

$$y = 1.5, 3.5$$

Put all values on number line and analyze the relationship

$$-3 \dots\dots\dots \frac{4}{5} \dots\dots\dots 1.5 \dots\dots\dots 3.5$$



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

II. $3y^2 - 10y - 8 = 0$

- A) $x > y$
- B) $x < y$
- C) $x \geq y$
- D) $x \leq y$
- E) $x = y$ or relationship cannot be determined

Option B**Solution:**

$$x = -3.5, -2$$

$$y = -2/3, 4$$

Put all values on number line and analyze the relationship

$$-3.5 \dots -2 \dots -2/3 \dots 4$$

8. I. $2x^2 + 17x + 30 = 0$,

II. $4y^2 - 13y - 12 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

**Option B****Solution:**

$$x = -6, -5/2$$

$$y = -3/4, 4$$

Put all values on number line and analyze the relationship

$$-6 \dots -5/2 \dots -3/4 \dots 4$$

9. I. $3x^2 - 10x + 8 = 0$,

II. $3y^2 + 8y - 16 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option C**Solution:**

$$x = 2, 4/3$$

$$y = -4, 4/3$$

Put all values on number line and analyze the relationship

$$-4 \dots 4/3 \dots 2$$

10. I. $3x^2 - 4x - 4 = 0$,
 II. $4y^2 + 23y + 15 = 0$
- A) $x > y$
 B) $x < y$
 C) $x \geq y$
 D) $x \leq y$
 E) $x = y$ or relationship cannot be determined

Option A**Solution:**

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

$$y = -5, -3/4$$

Put all values on number line and analyze the relationship

$$-5 \dots -3/4 \dots -2/3 \dots 2$$

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-

1. I. $4x^2 + 3x - 27 = 0$,
 II. $3y^2 - 20y + 32 = 0$
- A) If $x > y$
 B) If $x < y$
 C) If $x \geq y$
 D) If $x \leq y$
 E) If $x = y$ or relation cannot be established

Option B**Solution:**

$$x = 2.25, -3$$

$$y = 8/3, 4$$

Put all values on number line and analyze the relationship

$$-3 \dots 2.25 \dots 8/3 \dots 4$$

2. I. $4x^2 + 19x + 21 = 0$,
 II. $3y^2 - 19y - 14 = 0$
- A) If $x > y$
 B) If $x < y$
 C) If $x \geq y$
 D) If $x \leq y$
 E) If $x = y$ or relation cannot be established

Option B**Solution:**

$$x = -3, -1.75$$

$$y = -2/3, 7$$

Put all values on number line and analyze the relationship

$$-3 \dots -1.75 \dots -2/3 \dots 7$$

3. I. $4x^2 - 9x - 9 = 0$,

II. $15y^2 - 29y + 12 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option E

Solution:

$$x = -3/4, 3$$

$$y = 3/5, 4/3$$

Put all values on number line and analyze the relationship

$$-3/4 \dots 3/5 \dots 4/3 \dots 3$$

4. I. $3x^2 - 5x - 12 = 0$,

II. $3y^2 - 8y - 16 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option E

Solution:

$$x = -4/3, 3$$

$$y = -4/3, 4$$

Put all values on number line and analyze the relationship

$$-4/3 \dots 3 \dots 4$$

5. I. $3x^2 + 2x - 21 = 0$,

II. $3y^2 - 19y + 28 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option D

Solution:

$$x = -3, \frac{7}{3}$$

$$y = \frac{7}{3}, 4$$

Put all values on number line and analyze the relationship

-3..... $\frac{7}{3}$4

6. I. $5x^2 + 11x - 12 = 0$

II. $3y^2 - 19y + 28 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established



Option B

Solution:

$$x = -3, \frac{4}{5}$$

$$y = \frac{7}{3}, 4$$

Put all values on number line and analyze the relationship

-3..... $\frac{4}{5}$ $\frac{7}{3}$4

7. I. $3x^2 - 25x + 52 = 0$,

II. $3y^2 - 10y - 8 = 0$

- A) $x > y$
- B) $x < y$
- C) $x \geq y$
- D) $x \leq y$
- E) $x = y$ or relationship cannot be determined

Option C

Solution:

$$x = 4, \frac{13}{3}$$

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

Put all values on number line and analyze the relationship

$-\frac{2}{3}$4..... $\frac{13}{3}$

8. I. $3x^2 + 7x - 6 = 0$,
II. $4y^2 - 13y - 12 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established

Option E

Solution:

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

$$y = -3/4, 4$$

Put all values on number line and analyze the relationship

-3..... -3/4.....2/3.....4

9. I. $3x^2 + 2x - 8 = 0$,
II. $3y^2 - 14y + 16 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established



Option B

Solution:

$$x = -2, 4/3$$

$$y = 2, 8/3$$

Put all values on number line and analyze the relationship

-2.....4/3.....2.....8/3

10. I. $3x^2 + 28x + 60 = 0$,
II. $3y^2 + 37y + 114 = 0$
A) $x > y$
B) $x < y$
C) $x \geq y$
D) $x \leq y$
E) $x = y$ or relationship cannot be determined

Option C

Solution:

$$x = -6, -10/3$$

$$y = -19/3, -6$$

Put all values on number line and analyze the relationship

$$-19/3 \dots \dots -6 \dots \dots -10/3$$

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-

1. I. $3x^2 - 13x + 14 = 0$,
 II. $3y^2 - 20y + 32 = 0$
 - A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

Option B

Solution:

$$x = 2, 7/3$$

$$y = 8/3, 4$$

Put all values on number line and analyze the relationship

$$2 \dots \dots 7/3 \dots \dots 8/3 \dots \dots 4$$

2. I. $3x^2 + 10x + 8 = 0$,
 II. $3y^2 - 19y - 14 = 0$
 - A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

Option B

Solution:

$$x = -2, -4/3$$

$$y = -2/3, 7$$

Put all values on number line and analyze the relationship

$$-2 \dots \dots -4/3 \dots \dots -2/3 \dots \dots 7$$

3. I. $4x^2 - 9x - 9 = 0$,
 II. $4y^2 + 13y + 10 = 0$
 - A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

Option A

Solution:

$$x = -\frac{3}{4}, 3$$

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

Put all values on number line and analyze the relationship

$$-2 \dots -\frac{5}{4} \dots -\frac{3}{4} \dots \dots \dots 3$$

4. I. $4x^2 - 23x + 30 = 0$,

II. $3y^2 - 8y - 16 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established



Option E

Solution:

$$x = \frac{15}{4}, 2$$

$$y = -\frac{4}{3}, 4$$

Put all values on number line and analyze the relationship

$$-\frac{4}{3} \dots \dots 2 \dots \dots \frac{15}{4} \dots \dots 4$$

5. I. $3x^2 + 2x - 21 = 0$,

II. $3y^2 - 2y - 8 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option E

Solution:

$$x = -3, \frac{7}{3}$$

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

Put all values on number line and analyze the relationship

$$-3 \dots \dots -\frac{4}{3} \dots \dots 1 \dots \dots \frac{7}{3}$$

6. I. $3x^2 - 19x + 30 = 0$

II. $3y^2 - 19y + 28 = 0$

- A) If $x > y$

- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option E**Solution:**

$$x = 3, 10/3$$

$$y = 7/3, 4$$

Put all values on number line and analyze the relationship
 $7/3 \dots\dots\dots 3 \dots\dots\dots 10/3 \dots\dots\dots 4$

- 7.
- I. $3x^2 - 25x + 52 = 0$,
 - II. $2y^2 - 13y + 6 = 0$
 - A) $x > y$
 - B) $x < y$
 - C) $x \geq y$
 - D) $x \leq y$
 - E) $x = y$ or relationship cannot be determined

**Option E****Solution:**

$$x = 4, 13/3$$

$$y = 1/2, 6$$

Put all values on number line and analyze the relationship
 $1/2 \dots\dots\dots 4 \dots\dots\dots 13/3 \dots\dots\dots 6$

- 8.
- I. $4x^2 + 15x + 9 = 0$,
 - II. $4y^2 - 13y - 12 = 0$
 - A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

Option D**Solution:**

$$x = -3, -3/4$$

$$y = -3/4, 4$$

Put all values on number line and analyze the relationship

-3..... -3/4.....4

9. I. $20x^2 - 31x + 12 = 0$,

II. $3y^2 - 14y + 16 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option B

Solution:

$$x = 3/4, 4/5$$

$$y = 2, 8/3$$

Put all values on number line and analyze the relationship

$3/4.....4/5.....2.....8/3$

10. I. $3x^2 + 16x + 20 = 0$,

II. $3y^2 + 37y + 114 = 0$

- A) $x > y$
- B) $x < y$
- C) $x \geq y$
- D) $x \leq y$
- E) $x = y$ or relationship cannot be determined

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Option A

Solution:

$$x = -10/3, -2$$

$$y = -19/3, -6$$

Put all values on number line and analyze the relationship

$-19/3.....-6.....-10/3.....-2$

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-

1. I. $3x^2 - 25x + 52 = 0$

II. $3y^2 - 5y - 12 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option A**Solution:**

$$x = 4, \frac{13}{3}$$

$$y = -\frac{4}{3}, 3$$

Put all values on number line and analyze the relationship

$$-\frac{4}{3} \dots \dots 3 \dots \dots 4 \dots \dots \frac{13}{3}$$

2. I. $4x^2 + 23x + 28 = 0$

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

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

**Option E****Solution:**

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

$$y = -4, \frac{1}{2}$$

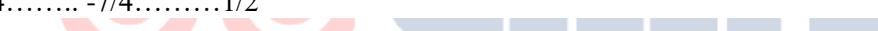
Put all values on number line and analyze the relationship

$$-4 \dots \dots -\frac{7}{4} \dots \dots \frac{1}{2}$$

3. I. $7x^2 + 19x - 6 = 0$

II. $4y^2 + 13y + 10 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

**Option E****Solution:**

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

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

Put all values on number line and analyze the relationship

$$-3 \dots \dots -2 \dots \dots -\frac{5}{4} \dots \dots \frac{2}{7}$$

4. I. $16x^2 + 8x - 15 = 0$

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

- A) If $x > y$

- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option E

Solution:

$$x = -\frac{5}{4}, \frac{3}{4}$$

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

Put all values on number line and analyze the relationship

$$-\frac{5}{4} \dots \frac{1}{2} \dots \frac{3}{4} \dots 6$$

5. I. $3x^2 + 7x - 6 = 0$

II. $4y^2 - 11y + 6 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established



Option B

Solution:

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

$$y = \frac{3}{4}, 2$$

Put all values on number line and analyze the relationship

$$-3 \dots \frac{2}{3} \dots \frac{3}{4} \dots 2$$

6. I. $3x^2 - 19x + 30 = 0$

II. $5y^2 - 18y + 9 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option C

Solution:

$$x = 3, \frac{10}{3}$$

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

Put all values on number line and analyze the relationship

$$\frac{3}{5} \dots 3 \dots \frac{10}{3}$$

7. I. $3x^2 - 10x + 8 = 0$
 II. $3y^2 - 8y - 16 = 0$
- A) $x > y$
 B) $x < y$
 C) $x \geq y$
 D) $x \leq y$
 E) $x = y$ or relationship cannot be determined

Option E**Solution:**

$$x = 2, \frac{4}{3}$$

$$y = -\frac{4}{3}, 4$$

Put all values on number line and analyze the relationship

$$-\frac{4}{3} \dots \frac{4}{3} \dots 2 \dots 4$$

- 
8. I. $2x^2 + 17x + 21 = 0$
 II. $2y^2 + 11y + 12 = 0$
- A) $x > y$
 B) $x < y$
 C) $x \geq y$
 D) $x \leq y$
 E) $x = y$ or relationship cannot be determined

LEVEL : CLASS WITH US...

Option E**Solution:**

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

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

Put all values on number line and analyze the relationship

$$-7 \dots -4 \dots -\frac{3}{2}$$

9. I. $2x^2 - 9x + 4 = 0$
 II. $3y^2 - 19y + 28 = 0$
- A) If $x > y$
 B) If $x < y$
 C) If $x \geq y$
 D) If $x \leq y$
 E) If $x = y$ or relation cannot be established

Option E

Solution:

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

$$y = \frac{7}{3}, 4$$

Put all values on number line and analyze the relationship

$$\frac{1}{2} \dots \dots \frac{7}{3} \dots \dots 4$$

10. I. $3x^2 + 22x + 24 = 0$

II. $3y^2 + 37y + 114 = 0$

- A) $x > y$
- B) $x < y$
- C) $x \geq y$
- D) $x \leq y$
- E) $x = y$ or relationship cannot be determined



Option C

Solution:

$$x = -\frac{4}{3}, -6$$

$$y = -\frac{19}{3}, -6$$

Put all values on number line and analyze the relationship

$$-\frac{19}{3} \dots \dots -6 \dots \dots -\frac{4}{3}$$

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-

1. I. $3x^2 - 8x - 16 = 0$,
II. $4y^2 - 11y - 20 = 0$
 - A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

Option E

Solution:

$$x = -\frac{4}{3}, 4$$

$$y = -\frac{5}{4}, 4$$

Put all values on number line and analyze the relationship

$$-\frac{4}{3} \dots \dots -\frac{5}{4} \dots \dots 4$$

2. I. $6x^2 - 19x + 10 = 0$,
II. $3y^2 + 7y - 6 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established

Option C

Solution:

$$x = 2/3, 5/2$$

$$y = -3, 2/3$$

Put all values on number line and analyze the relationship

$$-3 \dots 2/3 \dots 5/2$$

3. I. $4x^2 + 28x + 45 = 0$,
II. $2y^2 - 5y - 12 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established



Option B

Solution:

$$x = -9/2, -5/2$$

$$y = -3/2, 4$$

Put all values on number line and analyze the relationship

$$-9/2 \dots -5/2 \dots -3/2 \dots 4$$

4. I. $x^2 - 5x - 50 = 0$,
II. $y^2 - 9y - 36 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established

Option E

Solution:

$$x = -5, 10$$

$$y = -3, 12$$

Put all values on number line and analyze the relationship

-5..... -3.....10.....12

5. I. $3x^2 - 32x - 35 = 0$,

II. $2y^2 + 23y + 45 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option A

Solution:

$$x = -7/3, 5$$

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

Put all values on number line and analyze the relationship

-9..... -5/2..... -7/3..... 5



6. I. $3x^2 - 28x + 65 = 0$,

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

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option D

Solution:

$$x = 13/3, 5$$

$$y = 5, 11/2$$

Put all values on number line and analyze the relationship

13/3..... 5.....11/2

7. I. $2x^2 - 17x + 35 = 0$,

II. $6y^2 - 23y + 15 = 0$

- A) $x > y$
- B) $x < y$
- C) $x \geq y$
- D) $x \leq y$
- E) $x = y$ or relationship cannot be determined

Option A

Solution:

$$x = 7/2, 5$$

$$y = 5/6, 3$$

Put all values on number line and analyze the relationship

$$5/6 \dots 3 \dots 7/2 \dots 5$$

8. I. $3x^2 - 22x + 24 = 0$,

II. $3y^2 + 11y - 20 = 0$

- A) $x > y$
- B) $x < y$
- C) $x \geq y$
- D) $x \leq y$
- E) $x = y$ or relationship cannot be determined



Option C

Solution:

$$x = 4/3, 6$$

$$y = -5, 4/3$$

Put all values on number line and analyze the relationship

$$-5 \dots 4/3 \dots 6$$



9. I. $2x^2 = 50$,

II. $3y^2 - 4y - 15 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established



Option E

Solution:

$$x = -5, 5$$

$$y = -5/3, 3$$

Put all values on number line and analyze the relationship

$$-5 \dots -5/3 \dots 3 \dots 5$$

10. I. $x = \sqrt{361}$,
 II. $y^2 = 324$
 A) $x > y$
 B) $x < y$
 C) $x \geq y$
 D) $x \leq y$
 E) $x = y$ or relationship cannot be determined

Option A**Solution:**

$x = 19$ (roots are not negative)

$y = -18, 18$

Put all values on number line and analyze the relationship

-18.....18.....19

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-

1. I. $3x^2 - 13x - 30 = 0$,
 II. $3y^2 + 17y + 20 = 0$
 A) If $x > y$
 B) If $x < y$
 C) If $x \geq y$
 D) If $x \leq y$
 E) If $x = y$ or relation cannot be established

Option C**Solution:**

$x = -5/3, 6$

$y = -4, -5/3$

Put all values on number line and analyze the relationship

-4.....-5/3.....6

2. I. $3x^2 - 5x - 28 = 0$,
 II. $3y^2 - 32y - 35 = 0$
 A) If $x > y$
 B) If $x < y$
 C) If $x \geq y$
 D) If $x \leq y$
 E) If $x = y$ or relation cannot be established

Option E**Solution:**

$$x = -7/3, 4$$

$$y = -7/3, 5$$

Put all values on number line and analyze the relationship

$-7/3 \dots\dots\dots 4 \dots\dots\dots 5$

3. I. $3x^2 - 10x - 8 = 0$,

II. $2y^2 + 17y + 30 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option A**Solution:**

$$x = -2/3, 4$$

$$y = -6, -5/2$$

Put all values on number line and analyze the relationship

$-6 \dots\dots\dots -5/2 \dots\dots\dots -2/3 \dots\dots\dots 4$

4. I. $2x^2 - x - 28 = 0$,

II. $3y^2 + 4y - 15 = 0$

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option E**Solution:**

$$x = -7/2, 4$$

$$y = -3, 5/3$$

Put all values on number line and analyze the relationship

$-7/2 \dots\dots\dots -3 \dots\dots\dots 5/3 \dots\dots\dots 4$

5. I. $3x^2 - 22x + 24 = 0$,

II. $2y^2 - 25y + 78 = 0$

- A) If $x > y$

- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option D

Solution:

$$x = 4/3, 6$$

$$y = 6, 13/2$$

Put all values on number line and analyze the relationship

$$4/3 \dots \dots \dots 6 \dots \dots \dots 13/2$$

6. I. $2x^2 - x - 45 = 0$,
II. $3y^2 - 13y - 10 = 0$
- A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

Option E

Solution:

$$x = -9/2, 5$$

$$y = -2/3, 5$$

Put all values on number line and analyze the relationship

$$-9/2 \dots \dots \dots -2/3 \dots \dots \dots 5$$

7. I. $2x^2 - 19x + 45 = 0$,
II. $3y^2 + 16y - 12 = 0$
- A) $x > y$
 - B) $x < y$
 - C) $x \geq y$
 - D) $x \leq y$
 - E) $x = y$ or relationship cannot be determined

Option A

Solution:

$$x = 9/2, 5$$

$$y = -6, 2/3$$

Put all values on number line and analyze the relationship

$$-6 \dots \dots \dots 2/3 \dots \dots \dots 9/2 \dots \dots \dots 5$$

8. I. $2x^2 + 17x + 35 = 0$,
II. $2y^2 + 13y + 21 = 0$
- A) $x > y$
B) $x < y$
C) $x \geq y$
D) $x \leq y$
E) $x = y$ or relationship cannot be determined

Option D

Solution:

$$x = -5, -7/2$$

$$y = -7/2, -3$$

Put all values on number line and analyze the relationship

$$-5 \dots -7/2 \dots -3$$

- 
9. I. $2x^2 - 13x + 21 = 0$,
II. $3y^2 - 4y - 15 = 0$
- A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established

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Option C

Solution:

$$x = 3, 7/2$$

$$y = -5/3, 3$$

Put all values on number line and analyze the relationship

$$-5/3 \dots 3 \dots 7/2$$

10. I. $3x^2 + 4x - 32 = 0$,
II. $2y^2 - 19y + 42 = 0$
- A) $x > y$
B) $x < y$
C) $x \geq y$
D) $x \leq y$
E) $x = y$ or relationship cannot be determined

Option B**Solution:**

$$x = -4, \frac{8}{3}$$

$$y = \frac{7}{2}, 6$$

Put all values on number line and analyze the relationship

$$-4 \dots \frac{8}{3} \dots \frac{7}{2} \dots 6$$

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-

1. I. $2x^2 + 25x + 78 = 0$,
 II. $3y^2 + 23y + 30 = 0$
 - A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

**Option D****Solution:**

$$2x^2 + 25x + 78 = 0,$$

$$2x^2 + 12x + 13x + 78 = 0$$

$$\text{Gives } x = -\frac{13}{2}, -6$$

$$3y^2 + 23y + 30 = 0$$

$$3y^2 + 18y + 5y + 30 = 0$$

$$\text{Gives } y = -6, -\frac{5}{3}$$

Put all values on number line and analyze the relationship

$$-\frac{13}{2} \dots -6 \dots -\frac{5}{3}$$

2. I. $2x^2 + 7x - 15 = 0$,
 II. $3y^2 + 11y - 20 = 0$
 - A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

Option E**Solution:**

$$2x^2 + 7x - 15 = 0$$

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

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

$$3y^2 + 11y - 20 = 0$$

$$3y^2 + 15y - 4y - 20 = 0$$

$$\text{Gives } y = -5, \frac{4}{3}$$

Put all values on number line and analyze the relationship

-5..... $\frac{3}{2}$ $\frac{4}{3}$

When $x = \frac{3}{2}$, it is both $> y(-5)$ and $< y(\frac{4}{3})$

3. I. $3x^2 - 11x + 6 = 0$,
 II. $3y^2 + 11y - 20 = 0$
 A) If $x > y$
 B) If $x < y$
 C) If $x \geq y$
 D) If $x \leq y$
 E) If $x = y$ or relation cannot be established

Option E

Solution:

$$\begin{aligned} 3x^2 - 11x + 6 &= 0 \\ 3x^2 - 9x - 2x + 6 &= 0 \\ \text{Gives } x &= \frac{2}{3}, 3 \\ 3y^2 + 11y - 20 &= 0 \\ 3y^2 + 15y - 4y - 20 &= 0 \\ \text{Gives } y &= -5, \frac{4}{3} \end{aligned}$$

4. I. $3x^2 + 17x + 20 = 0$,
 II. $3y^2 - 4y - 15 = 0$
 A) If $x > y$
 B) If $x < y$
 C) If $x \geq y$
 D) If $x \leq y$
 E) If $x = y$ or relation cannot be established

Option D

Solution:

$$\begin{aligned} 3x^2 + 17x + 20 &= 0 \\ 3x^2 + 12x + 5x + 20 &= 0 \\ \text{Gives } x &= -4, -\frac{5}{3} \\ 3y^2 - 4y - 15 &= 0 \\ 3y^2 - 9y + 5y - 15 &= 0 \\ \text{Gives } y &= -\frac{5}{3}, 3 \end{aligned}$$

5. I. $5x^2 - 19x + 12 = 0$,
 II. $5y^2 + 6y - 8 = 0$
 A) If $x > y$
 B) If $x < y$
 C) If $x \geq y$
 D) If $x \leq y$
 E) If $x = y$ or relation cannot be established

Option C

Solution:

Explanation:

$$5x^2 - 19x + 12 = 0$$

$$5x^2 - 19x + 12 = 0$$

Gives $x = 4/5, 3$

$$5y^2 + 6y - 8 = 0$$

$$5y^2 + 10y - 4y - 8 = 0$$

Gives $y = -2, 4/5$

6. I. $3x^2 - 10x - 8 = 0$,

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

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option A

Solution:

$$3x^2 - 10x - 8 = 0$$

$$3x^2 - 12x + 2x - 8 = 0$$

Gives $x = -2/3, 4$

$$2y^2 + 13y + 21 = 0$$

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

Gives $y = -7/2, -3$

7. I. $4x^2 - 15x + 9 = 0$,

II. $2y^2 - 15y + 27 = 0$

- A) $x > y$
- B) $x < y$
- C) $x \geq y$
- D) $x \leq y$
- E) $x = y$ or relationship cannot be determined

Option D

Solution:

$$4x^2 - 15x + 9 = 0$$

$$4x^2 - 12x - 3x + 9 = 0$$

Gives $x = 3/4, 3$

$$2y^2 - 15y + 27 = 0$$

$$2y^2 - 6y - 9y + 27 = 0$$

So $y = 3, 9/2$

8. I. $3x^2 - 14x + 8 = 0$,

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

- A) $x > y$
- B) $x < y$
- C) $x \geq y$
- D) $x \leq y$
- E) $x = y$ or relationship cannot be determined

Option E**Solution:**

$$3x^2 - 14x + 8 = 0$$

$$3x^2 - 12x - 2x + 8 = 0$$

$$\text{Gives } x = 2/3, 4$$

$$2y^2 - 3y - 20 = 0$$

$$2y^2 - 8y + 5y - 20 = 0$$

$$\text{So } y = -5/2, 4$$

When $x = 2/3$, $x > y(-5/2)$ and also $x < y(4)$, so relationship cannot be determined

9. I. $4x^2 - (1 - 8\sqrt{2})x - 2\sqrt{2} = 0$

II. $5y^2 + (1 + 5\sqrt{2})y + \sqrt{2} = 0$

A) If $x > y$

B) If $x < y$

C) If $x \geq y$

D) If $x \leq y$

E) If $x = y$ or relation cannot be established

Option E**Solution:**

$$4x^2 - (1 - 8\sqrt{2})x - 2\sqrt{2} = 0$$

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

$$x(4x - 1) + 2\sqrt{2}(4x - 1) = 0$$

$$\text{So } x = 1/4, -2\sqrt{2} (-2.82)$$

$$5y^2 + (1 + 5\sqrt{2})y + \sqrt{2} = 0$$

$$(5y^2 + y) + (5\sqrt{2}y + \sqrt{2}) = 0$$

$$y(5y + 1) + \sqrt{2}(5y + 1) = 0$$

$$\text{So, } y = -1/5 (-0.2), -\sqrt{2} (-1.4)$$

10. I. $3x^2 - (9 + \sqrt{3})x + 3\sqrt{3} = 0$,

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

A) $x > y$

B) $x < y$

C) $x \geq y$

D) $x \leq y$

E) $x = y$ or relationship cannot be determined

Option E**Solution:**

$$3x^2 - (9 + \sqrt{3})x + 3\sqrt{3} = 0$$

$$(3x^2 - 9x) - (\sqrt{3}x - 3\sqrt{3}) = 0$$

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

$$\text{So } x = 3, \sqrt{3}/3 (0.58)$$

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

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

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

$$\text{So } x = 1, \sqrt{3} (1.73)$$

Directions: In the following questions, two equations numbered I and II 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-

1. I. $4x^2 - 29x + 45 = 0$,
 II. $4y^2 - 17y + 18 = 0$
 A) If $x > y$
 B) If $x < y$
 C) If $x \geq y$
 D) If $x \leq y$
 E) If $x = y$ or relation cannot be established

Option C

Solution:

$$\begin{aligned}4x^2 - 29x + 45 &= 0 \\4x^2 - 20x - 9x + 45 &= 0 \\ \text{Gives } x &= 9/4, 5 \\4y^2 - 17y + 18 &= 0 \\4y^2 - 8y - 9y + 18 &= 0 \\ \text{Gives } y &= 2, 9/4\end{aligned}$$

2. I. $3x^2 - 13x - 30 = 0$,
 II. $2y^2 - 25y + 78 = 0$
 A) If $x > y$
 B) If $x < y$
 C) If $x \geq y$
 D) If $x \leq y$
 E) If $x = y$ or relation cannot be established

Option D

Solution:

$$\begin{aligned}3x^2 - 13x - 30 &= 0 \\3x^2 - 18x + 5x - 30 &= 0 \\ \text{Gives } x &= -5/3, 6 \\2y^2 - 25y + 78 &= 0 \\2y^2 - 12y - 13y + 78 &= 0 \\ \text{Gives } y &= 6, 13/2\end{aligned}$$

3. I. $3x^2 - 20x + 32 = 0$,
 II. $3y^2 - 29y + 56 = 0$
 A) If $x > y$

- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option E

Solution:

$$3x^2 - 20x + 32 = 0$$

$$3x^2 - 12x - 8x + 32 = 0$$

Gives $x = 8/3, 4$

$$3y^2 - 29y + 56 = 0$$

$$3y^2 - 21y - 8y + 56 = 0$$

Gives $y = 8/3, 7$

4. I. $3x^2 - 16x - 35 = 0$,
II. $3y^2 - 23y + 40 = 0$
- A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established



Option E

Solution:

$$3x^2 - 16x - 35 = 0$$

$$3x^2 - 21x + 5x - 35 = 0$$

Gives $x = -5/3, 7$

$$3y^2 - 23y + 40 = 0$$

$$3y^2 - 15y - 8y + 40 = 0$$

Gives $y = 8/3, 5$

5. I. $2x^2 - 23x + 65 = 0$,
II. $3y^2 + 2y - 16 = 0$
- A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

Option A

Solution:

$$2x^2 - 23x + 65 = 0$$

$$2x^2 - 10x - 13x + 65 = 0$$

Gives $x = 5, 13/2$

$$3y^2 + 2y - 16 = 0$$

$$3y^2 - 6y + 8y - 16 = 0$$

Gives $y = -8/3, 2$

6. I. $x^2 - 78 = 91$,

II. $\sqrt{3} y = \sqrt{432}$

A) If $x > y$

B) If $x < y$

C) If $x \geq y$

D) If $x \leq y$

E) If $x = y$ or relation cannot be established

Option E

Solution:

$$x^2 - 78 = 91$$

$$x^2 = 169$$

Gives $x = -13, 13$

$$\sqrt{3} y = \sqrt{432}$$

$$y = \sqrt{432}/\sqrt{3} = \sqrt{144}$$

Gives $y = 12$

Now when $x = -13, y > x$

and when $x = 13, y < x$

So relation cannot be established

7. I. $3x^2 + 17x + 10 = 0$,

II. $3y^2 + 14y - 5 = 0$

A) If $x > y$

B) If $x < y$

C) If $x \geq y$

D) If $x \leq y$

E) If $x = y$ or relation cannot be established

Option E

Solution:

$$3x^2 + 17x + 10 = 0$$

$$3x^2 + 15x + 2x + 10 = 0$$

Gives $x = -5, -2/3$

$$3y^2 + 14y - 5 = 0$$

$$3y^2 + 15y - y - 5 = 0$$

Gives $y = -5, 1/3$

8. I. $2x^2 - 13x + 15 = 0$,
II. $2y^2 + 5y - 12 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established

Option C

Solution:

$$2x^2 - 13x + 15 = 0$$
$$2x^2 - 10x - 3x + 15 = 0$$

Gives $x = 3/2, 5$

$$2y^2 + 5y - 12 = 0$$
$$2y^2 + 8y - 3y - 12 = 0$$

Gives $y = -4, 3/2$

9. I. $2x^2 - 3x - 35 = 0$,
II. $3y^2 + 11y + 6 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established

Option E

Solution:

$$2x^2 - 3x - 35 = 0$$
$$2x^2 - 10x + 7x - 35 = 0$$

Gives $x = -7/2, 5$

$$3y^2 + 11y + 6 = 0$$
$$3y^2 + 9y + 2y + 6 = 0$$

Gives $y = -3, -2/3$

10. I. $3x^2 + 19x + 20 = 0$,
II. $3y^2 - 7y - 6 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established

Option B

Solution:

$$3x^2 + 19x + 20 = 0$$
$$3x^2 + 15x + 4x + 20 = 0$$

Gives $x = -5, -4/3$

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

$$3y^2 - 9y + 2y - 6 = 0$$

Gives $y = -2/3, 3$

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-

1. I. $4x^2 - x - 14 = 0$,
 II. $2y^2 - 13y + 20 = 0$
 - A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

Option B

Solution:

$$4x^2 - x - 14 = 0$$

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

Gives $x = -7/4, 2$

$$2y^2 - 13y + 20 = 0$$

$$2y^2 - 8y - 5y + 20 = 0$$

Gives $y = 5/2, 4$

2. I. $2x^2 - 11x + 14 = 0$,
 II. $3y^2 + 13y + 14 = 0$
 - A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

Option A

Solution:

$$2x^2 - 11x + 14 = 0$$

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

Gives $x = 2, 7/2$

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

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

Gives $y = -7/3, -2$

3. I. $3x^2 + 14x + 15 = 0$,
II. $3y^2 - 13y - 30 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established

Option D

Solution:

$$3x^2 + 14x + 15 = 0$$

$$3x^2 + 9x + 5x + 15 = 0$$

Gives $x = -5/3, 6$

$$3y^2 - 13y - 30 = 0$$

$$3y^2 - 18y + 5y - 30 = 0$$

Gives $y = -3, -5/3$

4. I. $3x^2 + 28x + 60 = 0$,
II. $2y^2 - 3y - 20 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established

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Option B

Solution:

$$3x^2 + 28x + 60 = 0$$

$$3x^2 + 18x + 10x + 60 = 0$$

Gives $x = -6, -10/3$

$$2y^2 - 3y - 20 = 0$$

$$2y^2 - 8y + 5y - 20 = 0$$

Gives $y = -5/2, 4$

5. I. $3x^2 - 8x - 35 = 0$,
II. $3y^2 + 37y + 104 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established

Option A

Solution:

$$3x^2 - 8x - 35 = 0$$

$$3x^2 - 15x + 7x - 35 = 0$$

Gives $x = 5, -7/3$

$$3y^2 + 37y + 104 = 0$$

$$3y^2 + 24y + 13y + 104 = 0$$

Gives $y = -8, -13/3$

6. I. $3x^2 - 5x - 78 = 0$,
II. $3y^2 + 28y + 65 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established



Option C

Solution:

$$3x^2 - 5x - 78 = 0$$

$$3x^2 - 18x + 13x - 78 = 0$$

Gives $x = -13/3, 6$

$$3y^2 + 28y + 65 = 0$$

$$3y^2 + 15y + 13y + 65 = 0$$

Gives $y = -5, -13/3$

7. I. $3x^2 - 7x - 40 = 0$,
II. $3y^2 + 26y + 48 = 0$
A) If $x > y$
B) If $x < y$
C) If $x \geq y$
D) If $x \leq y$
E) If $x = y$ or relation cannot be established

Option C

Solution:

$$3x^2 - 7x - 40 = 0$$

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

Gives $x = -8/3, 5$

$$3y^2 + 26y + 48 = 0$$

$$3y^2 + 18y + 8y + 48 = 0$$

Gives $y = -6, -8/3$

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

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

- A) If $x > y$
- B) If $x < y$
- C) If $x \geq y$
- D) If $x \leq y$
- E) If $x = y$ or relation cannot be established

Option B

Solution:

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

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

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

$$\text{So } x = -4, -2\sqrt{2} (-2.8)$$

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

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

$$3y(y + 1) + 3\sqrt{2}(y + 1) = 0$$

$$\text{So, } y = -1, -\sqrt{2} (-1.41)$$

9. I. $6x^2 - (3 + 4\sqrt{3})x + 2\sqrt{3} = 0$,

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

- A) $x > y$
- B) $x < y$
- C) $x \geq y$
- D) $x \leq y$
- E) $x = y$ or relationship cannot be determined

Option E

Solution:

$$6x^2 - (3 + 4\sqrt{3})x + 2\sqrt{3} = 0$$

$$(6x^2 - 3x) - (4\sqrt{3}x - 2\sqrt{3}) = 0$$

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

$$\text{So } x = 1/2 (0.5), 2\sqrt{3}/3 (1.16)$$

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

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

$$2y(2y - 1) - 2\sqrt{3}(2y - 1) = 0$$

$$\text{So, } y = 1/2 (0.5), \sqrt{3} (1.73)$$

10. I. $x^2 + (4 + 2\sqrt{2})x + 8\sqrt{2} = 0$
II. $y^2 - (2 + 3\sqrt{3})y + 6\sqrt{3} = 0$
- A) If $x > y$
 - B) If $x < y$
 - C) If $x \geq y$
 - D) If $x \leq y$
 - E) If $x = y$ or relation cannot be established

Option B

Solution:

$$\begin{aligned}x^2 + (4 + 2\sqrt{2})x + 8\sqrt{2} &= 0 \\(x^2 + 4x) + (2\sqrt{2}x + 8\sqrt{2}) &= 0 \\x(x + 4) + 2\sqrt{2}(x + 4) &= 0 \\So \ x = -4, -2\sqrt{2} (-2.82) &\\y^2 - (2 + 3\sqrt{3})y + 6\sqrt{3} &= 0 \\(y^2 - 2y) - (3\sqrt{3}y - 6\sqrt{3}) &= 0 \\y(y - 2) - 3\sqrt{3}(y - 2) &= 0 \\So \ y = 2, 3\sqrt{3} (5.2) &\end{aligned}$$



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