

EduSahara™ Learning Center Assignment

Grade : Class X, SSC

Chapter : Pair of Linear Equations in Two Variables

Name : Simultaneous Equations Complex Problems

Solve the following pair of equations :

1.
$$\frac{9}{x} - \frac{4}{y} = 22$$

$$\frac{1}{x} + \frac{2}{y} = 0$$

(i) $(\frac{3}{2}, \frac{1}{-1})$ (ii) $(\frac{1}{4}, \frac{1}{-1})$ (iii) $(\frac{1}{2}, -2)$

(iv) $(\frac{1}{2}, -4)$ (v) $(\frac{1}{2}, \frac{1}{-1})$

Solve the following pair of equations :

2.
$$14x + \frac{4}{y} = (-46)$$

$$9x - \frac{1}{y} = (-1)$$

(i) $(-1, \frac{1}{8})$ (ii) $(0, (\frac{-1}{8}))$ (iii) $(2, (\frac{-1}{8}))$

(iv) $(-1, (\frac{-1}{8}))$ (v) $(-1, (\frac{-1}{10}))$

Solve the following pair of equations :

3.
$$\frac{4}{x} - 9y = (-9)$$

$$\frac{9}{x} - 16y = (-33)$$

(i) $((\frac{-1}{9}), -4)$ (ii) $((\frac{-1}{9}), -3)$ (iii) $((\frac{-1}{9}), -5)$

(iv) $((\frac{-1}{7}), -3)$ (v) $((\frac{-1}{3}), -3)$

4. Solve the following pair of equations :

$$-4 - 5 = 23$$

$$\frac{\quad}{(x+y)} \quad \frac{\quad}{(x-y)}$$

$$\frac{1}{(x+y)} + \frac{5}{(x-y)} = (-17)$$

- (i) $(\frac{-5}{14}, \frac{-1}{12})$ (ii) $(\frac{-5}{12}, \frac{-1}{12})$ (iii) $(\frac{-1}{4}, \frac{-1}{12})$
 (iv) $(\frac{-5}{12}, \frac{-1}{10})$ (v) $(\frac{-5}{12}, \frac{-1}{4})$
-

Solve the following pair of equations :

$$5. \quad -\frac{13}{(x+y)} + \frac{8}{(x-y)} = (-7)$$

$$\frac{5}{(x+y)} - \frac{5}{(x-y)} = (-5)$$

- (i) $(\frac{3}{8}, \frac{1}{24})$ (ii) $(\frac{7}{24}, \frac{-1}{24})$ (iii) $(\frac{7}{26}, \frac{1}{24})$
 (iv) $(\frac{7}{24}, \frac{1}{24})$ (v) $(\frac{7}{24}, \frac{1}{22})$
-

Solve the following pair of equations :

$$6. \quad \frac{13}{(x+5)} - \frac{9}{(y+7)} = 7$$

$$-\frac{1}{(x+5)} - \frac{3}{(y+7)} = 29$$

- (i) $(\frac{-26}{5}, -3)$ (ii) $(1, \frac{-57}{8})$ (iii) $(3, \frac{-57}{8})$
 (iv) $(\frac{-26}{5}, \frac{-57}{8})$ (v) $(\frac{-26}{5}, -1)$
-

Solve the following pair of equations :

$$7. \quad (3x - 8y) = (-33xy)$$

$$(14x - 13y) = (-8xy)$$

- (i) $(\frac{1}{6}, \frac{-1}{5})$ (ii) $(\frac{1}{6}, \frac{1}{3})$ (iii) $(\frac{1}{8}, \frac{1}{5})$
 (iv) $(\frac{1}{6}, \frac{1}{5})$ (v) $(\frac{1}{2}, \frac{1}{5})$
-

8. Solve the following pair of equations :

$$\frac{(-x + 3y)}{xy} = 33$$

$$\frac{(15x + 15y)}{xy} = -15$$

- (i) $(\frac{1}{8}, (\frac{-1}{9}))$ (ii) $(\frac{1}{8}, \frac{1}{9})$ (iii) $(\frac{1}{10}, (\frac{-1}{9}))$
 (iv) $(\frac{1}{8}, (\frac{-1}{11}))$ (v) $(\frac{3}{8}, (\frac{-1}{9}))$
-

Solve the following pair of equations :

9.
$$\frac{18}{\sqrt{x}} - \frac{8}{\sqrt{y}} = 36$$

$$\frac{6}{\sqrt{x}} + \frac{6}{\sqrt{y}} = -66$$

- (i) $(\frac{1}{4}, \frac{1}{79})$ (ii) $(\frac{1}{6}, \frac{1}{81})$ (iii) $(\frac{1}{4}, \frac{1}{81})$
 (iv) $(\frac{1}{4}, (\frac{-1}{81}))$ (v) $(\frac{3}{4}, \frac{1}{81})$
-

Solve the following pair of equations :

10.
$$\frac{16}{x} - \frac{3}{y} = (-85)$$

$$\frac{9}{x} - \frac{4}{y} = (-27)$$

- (i) $((\frac{-1}{7}), (\frac{-1}{9}))$ (ii) $((\frac{-1}{7}), \frac{1}{9})$ (iii) $((\frac{-3}{7}), (\frac{-1}{9}))$
 (iv) $((\frac{-1}{5}), (\frac{-1}{9}))$ (v) $((\frac{-1}{7}), (\frac{-1}{11}))$
-

Solve the following pair of equations :

11.
$$x - \frac{6}{y} = 7$$

$$-4x + \frac{1}{y} = 18$$

- (i) $(-5, \frac{1}{2})$ (ii) $(-5, (\frac{-1}{2}))$ (iii) $(-5, (\frac{-1}{4}))$
 (iv) $(-2, (\frac{-1}{5}))$ (v) $(-4, (\frac{-1}{5}))$

Solve the following pair of equations :

12.
$$\frac{4}{x} + 4y = (-32)$$

$$\frac{2}{x} - 8y = 44$$

(i) $(\frac{-3}{2}, -6)$ (ii) $(\frac{-1}{2}, -7)$ (iii) $(\frac{-1}{2}, -6)$

(iv) $(\frac{-1}{2}, -9)$ (v) $(1, -6)$

Solve the following pair of equations :

13.
$$-\frac{9}{(x+y)} + \frac{12}{(x-y)} = (-3)$$

$$-\frac{7}{(x+y)} + \frac{1}{(x-y)} = (-19)$$

(i) $(\frac{5}{12}, (\frac{-1}{12}))$ (ii) $(\frac{5}{12}, (\frac{-1}{4}))$ (iii) $(\frac{7}{12}, (\frac{-1}{12}))$

(iv) $(\frac{5}{12}, (\frac{-1}{10}))$ (v) $(\frac{5}{14}, (\frac{-1}{12}))$

Solve the following pair of equations :

14.
$$-\frac{8}{(4x+y)} + \frac{4}{(4x-y)} = 4$$

$$-\frac{4}{(4x+y)} - \frac{4}{(4x-y)} = 8$$

(i) $(\frac{-1}{6}, 0)$ (ii) $(\frac{1}{4}, 0)$ (iii) $(\frac{-1}{4}, -3)$

(iv) $(\frac{-1}{4}, 0)$ (v) $(\frac{-1}{4}, -1)$

15. Solve the following pair of equations :

$$-\frac{12}{(x+9)} - \frac{13}{(y-9)} = (-20)$$

$$-\frac{8}{x} - \frac{5}{y} = 16$$

$$(x+9) \quad (y-9)$$

$$(i) \left(3, \frac{73}{8} \right) (ii) \left(\left(\frac{-64}{7} \right), -3 \right) (iii) \left(\left(\frac{-64}{7} \right), -1 \right)$$

$$(iv) \left(1, \frac{73}{8} \right) (v) \left(\left(\frac{-64}{7} \right), \frac{73}{8} \right)$$

Solve the following pair of equations :

$$16. \quad (8x + y) = (-15xy)$$

$$(6x - 2y) = (-14xy)$$

$$(i) \left(\frac{1}{1}, \left(\frac{-1}{4} \right) \right) (ii) \left(\frac{1}{1}, \left(\frac{-1}{2} \right) \right) (iii) \left(2, \left(\frac{-1}{2} \right) \right)$$

$$(iv) \left(\frac{1}{1}, \frac{1}{2} \right) \quad (v) \left(4, \left(\frac{-1}{2} \right) \right)$$

Solve the following pair of equations :

$$17. \quad \frac{(14x + 15y)}{xy} = -23$$

$$\frac{(10x + 8y)}{xy} = -30$$

$$(i) \left(\frac{1}{5}, \left(\frac{-1}{7} \right) \right) (ii) \left(\frac{1}{5}, \frac{1}{7} \right) \quad (iii) \left(\frac{1}{7}, \left(\frac{-1}{7} \right) \right)$$

$$(iv) \left(\frac{3}{5}, \left(\frac{-1}{7} \right) \right) (v) \left(\frac{1}{5}, \left(\frac{-1}{9} \right) \right)$$

Solve the following pair of equations :

$$18. \quad -\frac{6}{\sqrt{x}} - \frac{6}{\sqrt{y}} = -36$$

$$\frac{1}{\sqrt{x}} - \frac{1}{\sqrt{y}} = -10$$

$$(i) \left(\frac{1}{4}, \frac{1}{64} \right) (ii) \left(\frac{3}{4}, \frac{1}{64} \right) (iii) \left(\frac{1}{4}, \left(\frac{-1}{64} \right) \right)$$

$$(iv) \left(\frac{1}{6}, \frac{1}{64} \right) (v) \left(\frac{1}{4}, \frac{1}{62} \right)$$

Assignment Key

- 1) (v)
- 2) (iv)
- 3) (ii)
- 4) (ii)
- 5) (iv)
- 6) (iv)
- 7) (iv)
- 8) (i)
- 9) (iii)
- 10) (i)
- 11) (ii)
- 12) (iii)
- 13) (i)
- 14) (iv)
- 15) (v)
- 16) (ii)
- 17) (i)
- 18) (i)