EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Simultaneous Linear Equations

Grade : ICSE Grade VIII

1. Solve the following pair of equations :

$$\frac{3}{x} + 8y = (-11)$$

$$\frac{1}{x} + 6y = (-17)$$

(i) $(\frac{3}{7}, -4)$ (ii) $(\frac{1}{9}, -4)$ (iii) $(\frac{1}{7}, -4)$ (iv) $(\frac{1}{7}, -7)$ (v) $(\frac{1}{7}, -5)$

2. Solve the following pair of equations :

$$5x - \frac{10}{y} = (-60)$$

$$-8x - \frac{6}{y} = 8$$

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

3. A motor boat can travel at a speed of 22.28 m/sec downstream and 5.66 m/sec upstream. What is the speed of the motor boat in still water?

(i) 13.97 m/sec (ii) 15.97 m/sec (iii) 12.97 m/sec (iv) 14.97 m/sec (v) 11.97 m/sec

4. Solve $\begin{matrix}(3x+y+4) = 0 \\ (-5x-y-4) = 0\end{matrix}$

(i) $(0, -4)$ (ii) $(3, -7)$ (iii) $(1, -4)$ (iv) $(1, -5)$ (v) $(3, -5)$

5. Solve the following pair of equations :

$$\frac{3}{(4x+y)} - \frac{16}{(4x-y)} = (-123)$$

$$-\frac{4}{(4x+y)} - \frac{3}{(4x-y)} = 18$$

(i) $(\frac{1}{144}, (\frac{-5}{36}))$ (ii) $(\frac{1}{144}, (\frac{-7}{36}))$ (iii) $(\frac{1}{144}, (\frac{-5}{34}))$ (iv) $(\frac{1}{146}, (\frac{-5}{36}))$ (v) $(\frac{1}{48}, (\frac{-5}{36}))$

6. A motor boat can travel at a speed of 7.78 m/sec downstream and 2.04 m/sec upstream. How much distance can the boat travel in 37.80 sec in still water?

(i) 185.60 m (ii) 187.60 m (iii) 183.60 m (iv) 186.60 m (v) 184.60 m

7. A motor boat can travel at a speed of 12.07 m/sec downstream and 4.29 m/sec upstream. What is the speed of the stream?

(i) 5.89 m/sec (ii) 2.89 m/sec (iii) 1.89 m/sec (iv) 4.89 m/sec (v) 3.89 m/sec

8. Solve the following pair of equations :

$\frac{(2x-5y)}{xy}$ =-12

$\frac{(-3x-12y)}{xy}$ =-60

(i) $(\frac{1}{4},\frac{1}{2})$ (ii) $(\frac{1}{4},\frac{1}{4})$ (iii) $(\frac{1}{4},(\frac{-1}{4}))$ (iv) $(\frac{3}{4},\frac{1}{4})$ (v) $(\frac{1}{6},\frac{1}{4})$

9. Solve $\begin{matrix}(-5x+5y-2)=(x-4y+1)\\(x-5y-1) \ =(4x-y+5)\end{matrix}$

(i) $((\frac{-20}{17}),(\frac{-11}{17}))$ (ii) $((\frac{-22}{17}),(\frac{-9}{17}))$ (iii) $((\frac{-24}{19}),(\frac{-9}{17}))$ (iv) $((\frac{-24}{19}),(\frac{-3}{5}))$ (v) $((\frac{-20}{17}),(\frac{-3}{5}))$

10. A motor boat can travel at a speed of 20.64 m/sec downstream and 12.50 m/sec upstream. How much time will it take to cross a distance of 249.54 m in still water?

(i) 16.06 sec (ii) 13.06 sec (iii) 14.06 sec (iv) 15.06 sec (v) 17.06 sec

11. 15 men and 4 women can do a piece of work in 4 days.
1 men and 2 women can do the same work in 40 days.
In how many days can 5 men and 3 women complete the same work?

(i) $10\frac{18}{19}$ days (ii) $11\frac{1}{17}$ days (iii) $10\frac{6}{7}$ days (iv) $10\frac{16}{19}$ days (v) $11\frac{1}{19}$ days

12. Solve the following pair of equations :

$$\frac{9}{x}+\frac{3}{y}=21$$

$$\frac{16}{x}+\frac{11}{y}=(-8)$$

(i) $(\frac{1}{5},(\frac{-1}{10}))$ (ii) $(\frac{1}{7},(\frac{-1}{8}))$ (iii) $(\frac{1}{5},\frac{1}{8})$ (iv) $(\frac{1}{5},(\frac{-1}{8}))$ (v) $(\frac{3}{5},(\frac{-1}{8}))$

13. A motor boat can travel at a speed of 12.35 m/sec downstream and 2.61 m/sec upstream. How much distance can the boat travel in 47.26 sec in still water?

(i) 354.50 m (ii) 355.50 m (iii) 352.50 m (iv) 351.50 m (v) 353.50 m

14. Solve the following pair of equations :

$$-\frac{7}{(x+y)}+\frac{11}{(x-y)}=5$$

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

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

15. Solve $\begin{matrix}(x-2y-18) & = 0\\ (11x-3y-27) & = 0\end{matrix}$

(i) $(1,-9)$ (ii) $(0,-11)$ (iii) $(0,-10)$ (iv) $(3,-9)$ (v) $(0,-9)$

16. Solve the following pair of equations :

$$\frac{11}{x}+3y=90$$

$$-\frac{5}{x}+4y=(-57)$$

(i) $(\frac{1}{9},-5)$ (ii) $(\frac{1}{9},-3)$ (iii) $(\frac{1}{3},-3)$ (iv) $(\frac{1}{9},-4)$ (v) $(\frac{1}{11},-3)$

17. Solve the following pair of equations :

$$-13x+\frac{10}{y}=(-21)$$

$$2x+\frac{7}{y}=63$$

(i) $(7,\frac{1}{5})$ (ii) $(10,\frac{1}{7})$ (iii) $(8,\frac{1}{7})$ (iv) $(7,(\frac{-1}{7}))$ (v) $(7,\frac{1}{7})$

18. Solve $\begin{matrix}(-9x-3y-45) & = 0\\ y & = 0\end{matrix}$

(i) $(-5,0)$ (ii) $(-5,-3)$ (iii) $(-5,-1)$ (iv) $(-4,0)$ (v) $(-2,0)$

19. Solve the following pair of equations :

$$-\frac{9}{(x+7)}+\frac{4}{(y+8)}=(-12)$$

$$-\frac{15}{(x+7)}-\frac{2}{(y+8)}=(-72)$$

(i) $(1,(\frac{-47}{6}))$ (ii) $((\frac{-27}{4}),(\frac{-47}{6}))$ (iii) $((\frac{-27}{4}),-1)$ (iv) $((\frac{-27}{4}),-3)$ (v) $(3,(\frac{-47}{6}))$

20. Solve the following pair of equations :

$$\frac{2}{(x+y)}+\frac{4}{(x-y)}=(-24)$$

$$\frac{5}{(x+y)}+\frac{7}{(x-y)}=(-45)$$

(i) $((\frac{-7}{22}),(\frac{-3}{20}))$ (ii) $((\frac{-1}{4}),(\frac{-3}{20}))$ (iii) $((\frac{-7}{20}),(\frac{-1}{6}))$ (iv) $((\frac{-7}{20}),(\frac{-3}{20}))$ (v) $((\frac{-7}{20}),(\frac{-1}{4}))$

21. A motor boat can travel at a speed of 11.19 m/sec downstream and 2.59 m/sec upstream. How much time will it take to cross a distance of 281.80 m in still water?

(i) 38.90 sec (ii) 39.90 sec (iii) 42.90 sec (iv) 40.90 sec (v) 41.90 sec

22. Solve $\begin{matrix}(x-4y-5) & = 3\\ (3x+2y-4) & =(-5)\end{matrix}$

(i) $(\frac{2}{3},(\frac{-23}{12}))$ (ii) $(\frac{2}{3},(\frac{-25}{14}))$ (iii) $(\frac{6}{7},(\frac{-25}{14}))$ (iv) $(\frac{8}{7},(\frac{-27}{14}))$ (v) $(\frac{8}{7},(\frac{-23}{12}))$

23. Solve $\begin{matrix}(3x+3y-3)=0\\ (2x-5y+4)=0\end{matrix}$

(i) $(\frac{1}{7},\frac{6}{7})$ (ii) $(\frac{1}{9},\frac{6}{5})$ (iii) $(\frac{3}{7},\frac{4}{7})$ (iv) $(\frac{3}{7},\frac{6}{5})$ (v) $(\frac{1}{9},\frac{6}{7})$

24. Solve the following pair of equations :

$(13x+y)=(-22xy)$

$(-5x+3y)=22xy$

(i) $(\frac{1}{4},\frac{1}{2})$ (ii) $(\frac{1}{6},(\frac{-1}{2}))$ (iii) $(\frac{1}{4},(\frac{-1}{4}))$ (iv) $(\frac{1}{4},(\frac{-1}{2}))$ (v) $(\frac{3}{4},(\frac{-1}{2}))$

Solve the following pair of equations :

25. $$-\frac{2}{(2x+y)}+\frac{8}{(2x-y)}=(-22)$$

$$\frac{7}{(2x+y)}-\frac{7}{(2x-y)}=14$$

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

Assignment Key

1) (iii)	2) (i)	3) (i)	4) (i)	5) (i)	6) (i)
7) (v)	8) (ii)	9) (ii)	10) (iv)	11) (i)	12) (iv)
13) (v)	14) (iii)	15) (v)	16) (ii)	17) (v)	18) (i)
19) (ii)	20) (iv)	21) (iv)	22) (iii)	23) (i)	24) (iv)
25) (ii)					