EduSahara™ Worksheet

Name : Chapter Based Worksheet

Chapter : Simultaneous Linear Equations

Grade : ICSE Grade VIII

1. Solve $\begin{matrix}(5x-12y-20)=0\\(11x-4y+68)=0\end{matrix}$

(i) (-8,-6) (ii) (-6,-5) (iii) (-8,-5) (iv) (-8,-7) (v) (-7,-5)

2. A motor boat can travel at a speed of 37.47 m/sec downstream and 27.85 m/sec upstream. How much time will it take to cross a distance of 358.93 m in still water?

(i) 9.99 sec (ii) 10.99 sec (iii) 11.99 sec (iv) 12.99 sec (v) 8.99 sec

3. Solve the following pair of equations :

$$\frac{9}{(x+y)}+\frac{14}{(x-y)}=(-67)$$

$$\frac{1}{(x+y)}+\frac{11}{(x-y)}=(-83)$$

(i) $(\frac{1}{16},\frac{13}{80})$ (ii) $(\frac{3}{80},\frac{1}{6})$ (iii) $(\frac{3}{82},\frac{13}{80})$ (iv) $(\frac{3}{80},\frac{13}{80})$ (v) $(\frac{3}{80},\frac{11}{80})$

4. Solve the following pair of equations :

$$\begin{matrix}(5x-13y)=(-84xy)\\(9x+4y)=68xy\end{matrix}$$

(i) $(\frac{3}{8},\frac{1}{4})$ (ii) $(\frac{1}{8},(\frac{-1}{4}))$ (iii) $(\frac{1}{8},\frac{1}{4})$ (iv) $(\frac{1}{10},\frac{1}{4})$ (v) $(\frac{1}{8},\frac{1}{2})$

5. Solve the following pair of equations :

$$\begin{matrix}\frac{(2x+9y)}{xy}=21\\\frac{(12x-5y)}{xy}=-51\end{matrix}$$

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

6. 5 men and 3 women can do a piece of work in 12 days.
12 men and 25 women can do the same work in 4 days.
In how many days can 5 men and 5 women complete the same work?

(i) $11\frac{23}{95}$ days (ii) $11\frac{23}{97}$ days (iii) $11\frac{23}{93}$ days (iv) $11\frac{5}{19}$ days (v) $11\frac{21}{95}$ days

7. Solve $\begin{matrix}(-x+3y+3)=(-5)\\(-5x-5y+1)\ =4\end{matrix}$

(i) $(\frac{33}{20},(\frac{-9}{4}))$ (ii) $(\frac{3}{2},(\frac{-13}{6}))$ (iii) $(\frac{31}{20},(\frac{-43}{20}))$ (iv) $(\frac{3}{2},(\frac{-43}{20}))$ (v) $(\frac{33}{20},(\frac{-13}{6}))$

8. A motor boat can travel at a speed of 11.20 m/sec downstream and 0.22 m/sec upstream. What is the speed of the stream?

(i) 3.49 m/sec (ii) 6.49 m/sec (iii) 5.49 m/sec (iv) 4.49 m/sec (v) 7.49 m/sec

9. Solve the following pair of equations :

$$\frac{15}{x} + 2y = 16$$

$$\frac{11}{x} + 8y = (-34)$$

(i) $(\frac{1}{2}, -10)$ (ii) $(\frac{1}{2}, -7)$ (iii) $(\frac{1}{2}, -8)$ (iv) $(\frac{1}{4}, -7)$ (v) $(\frac{3}{2}, -7)$

10. Solve the following pair of equations :

$$-3x + \frac{15}{y} = (-99)$$

$$9x + \frac{1}{y} = 67$$

(i) $(11, (\frac{-1}{5}))$ (ii) $(8, \frac{1}{5})$ (iii) $(9, (\frac{-1}{5}))$ (iv) $(8, (\frac{-1}{5}))$ (v) $(8, (\frac{-1}{7}))$

11. A motor boat can travel at a speed of 17.70 m/sec downstream and 8.54 m/sec upstream. What is the speed of the motor boat in still water?

(i) 11.12 m/sec (ii) 12.12 m/sec (iii) 13.12 m/sec (iv) 15.12 m/sec (v) 14.12 m/sec

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

(i) $(9, \frac{7}{2})$ (ii) $(10, \frac{5}{2})$ (iii) $(9,4)$ (iv) $(10,4)$ (v) $(8, \frac{7}{2})$

13. Solve the following pair of equations :

$$\frac{(-x+10y)}{xy} = 47$$

$$\frac{(4x+5y)}{xy} = -8$$

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

14. Solve the following pair of equations :

$$\frac{3}{(4x+y)} - \frac{11}{(4x-y)} = 81$$

$$\frac{15}{(4x+y)} - \frac{12}{(4x-y)} = 18$$

(i) $(\frac{-5}{144}, \frac{-1}{36})$ (ii) $(\frac{-1}{48}, \frac{-1}{36})$ (iii) $(\frac{-5}{144}, \frac{-1}{34})$ (iv) $(\frac{-5}{146}, \frac{-1}{36})$ (v) $(\frac{-5}{144}, \frac{-1}{12})$

15. Solve the following pair of equations :

$$\frac{11}{x} + \frac{12}{y} = 53$$

$$-\frac{1}{x} + \frac{7}{y} = (-21)$$

(i) $(\frac{1}{7}, \frac{-1}{4})$ (ii) $(\frac{1}{7}, \frac{-1}{2})$ (iii) $(\frac{1}{7}, \frac{1}{2})$ (iv) $(\frac{1}{9}, \frac{-1}{2})$ (v) $(\frac{3}{7}, \frac{-1}{2})$

16. Solve the following pair of equations :

$(-2x+15y) = 44xy$

$(8x+14y) = (-28xy)$

(i) $(\frac{3}{2}, \frac{-1}{7})$ (ii) $(\frac{1}{4}, \frac{-1}{7})$ (iii) $(\frac{1}{2}, \frac{-1}{7})$ (iv) $(\frac{1}{2}, \frac{1}{7})$ (v) $(\frac{1}{2}, \frac{-1}{9})$

17. A motor boat can travel at a speed of 28.16 m/sec downstream and 4.94 m/sec upstream. What is the speed of the motor boat in still water?

(i) 17.55 m/sec (ii) 15.55 m/sec (iii) 14.55 m/sec (iv) 18.55 m/sec (v) 16.55 m/sec

18. Solve the following pair of equations :

$$\frac{3}{(x-4)} - \frac{15}{(y+5)} = (-99)$$

$$-\frac{14}{(x-4)} - \frac{7}{(y+5)} = 77$$

(i) $(2, \frac{-24}{5})$ (ii) $(\frac{31}{8}, -3)$ (iii) $(1, \frac{-24}{5})$ (iv) $(\frac{31}{8}, \frac{-24}{5})$ (v) $(\frac{31}{8}, -1)$

19. Solve $\begin{matrix}(-4x+3y-3) = 3 \\ (5x+4y-2) = 1\end{matrix}$

(i) $(\frac{-13}{31}, \frac{40}{29})$ (ii) $(\frac{-15}{31}, \frac{42}{31})$ (iii) $(\frac{-5}{11}, \frac{40}{29})$ (iv) $(\frac{-5}{11}, \frac{42}{31})$ (v) $(\frac{-13}{31}, \frac{40}{31})$

20. 2 men and 1 women can do a piece of work in 48 days.
1 men and 2 women can do the same work in 48 days.
In how many days can 3 men and 3 women complete the same work?

(i) 21 days (ii) 24 days (iii) 26 days (iv) 23 days (v) 25 days

21. Solve $\begin{matrix}(5x-5y+1) &= 0\\ (-5x-5y-4) &= 0\end{matrix}$

(i) $((\frac{-1}{4}),(\frac{-3}{8}))$ (ii) $(\frac{1}{2},(\frac{-1}{2}))$ (iii) $((\frac{-1}{4}),(\frac{-3}{10}))$ (iv) $((\frac{-1}{2}),(\frac{-3}{10}))$ (v) $(\frac{1}{2},(\frac{-3}{8}))$

22. Solve $\begin{matrix}(-11x+10y+57) &= 0\\ (-x+16y-25) &= 0\end{matrix}$

(i) $(7,0)$ (ii) $(8,2)$ (iii) $(10,2)$ (iv) $(7,2)$ (v) $(7,1)$

23. A motor boat can travel at a speed of 13.86 m/sec downstream and 1.66 m/sec upstream. How much distance can the boat travel in 44.16 sec in still water?

(i) 342.68 m (ii) 340.68 m (iii) 341.68 m (iv) 343.68 m (v) 344.68 m

24. Solve the following pair of equations :

$$-4x-\frac{2}{y}=(-16)$$

$$2x+\frac{8}{y}=(-20)$$

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

25. Solve the following pair of equations :

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

$$-\frac{4}{(3x+y)}+\frac{7}{(3x-y)}=30$$

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

Assignment Key

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