

Chapter Name : Simultaneous Linear Equation

- 1) The largest angle of a triangle is twice the sum of other two. The smallest is one fourth of the largest. Determine the angles in degree.
- 2) The numerator of a fraction is 3 less than the denominator. If the denominator is added to numerator, and the numerator is subtracted from the denominator, we get $11/3$. Find the fraction.
- 3) If 2 is added to the numerator and denominator it becomes $\frac{9}{10}$ and if 3 is subtracted from the numerator and denominator it becomes $\frac{4}{5}$. Find the fractions
- 4) Solve by the method of elimination $2x - 9y = 9$ and $5x + 2y = 27$.
- 5) In a two digit number. The units digit is thrice the tens digit. If 36 is added to the number, the digits interchange their place. Find the number.
- 6) Use method of cross multiplication to solve $\frac{3y}{2} - \frac{5x}{3} = -2$ and $\frac{y}{3} + \frac{x}{3} = \frac{13}{6}$.
- 7) Solve the following simultaneous linear equations $\frac{x}{a} - \frac{y}{b} = 0$ and $ax + by = a^2 + b^2$
- 8) The sum of a two digit number and the number obtained by interchanging the digits is 132. If the two digits differ by 2, find the number(s).
- 9) Six years hence a man's age will be three times his son's age, and three years ago he was nine times as old as his son. Find their present ages.
- 10) Solve by substitution method : $5x + 4y - 4 = 0$, $x - 20 = 8y$.
- 11) Solve the following by elimination method : $\frac{2}{x} + \frac{3}{y} = 2$, $\frac{5}{x} + \frac{8}{y} = 5\frac{1}{6}$.
- 12) Solve the following equation using elimination method : $\frac{5}{x+y} - \frac{2}{x-y} = -1$, $\frac{15}{x+y} + \frac{7}{x-y} = 10$.
- 13) Solve the following equation using cross multiplication method : $ax + by = a - b$, $bx - ay = a + b$
- 14) Three years hence a man's age will be three times his son's age, and 7 years ago he was seven times as old as his son. How old are they now?
- 15) The sum of the digits of a two digit number is 7. If the digits are reversed, the new number increased by 3 equal 4 times the original number. Find the number.
- 16) A man sold a chair and a table together for ₹ 1520 there by making a profit of 25% on the chair and 10% on the table. By selling them together for ₹ 1535 he would have made a profit of 10% on chair and 25% on the table. Find the cost price of each.
- 17) The length (in metres) of the side of a triangle are $2x + \frac{y}{2}$, $\frac{5x}{3} + y + \frac{1}{2}$ and $\frac{2}{3}x + 2y + \frac{5}{2}$. If the triangle is equilateral, find its perimeter.
- 18) Solve the following by elimination method : $\frac{a}{x} - \frac{b}{y} = 0$, $\frac{ab^2}{x} + \frac{a^2b}{y} = a^2 + b^2$.
- 19) Solve by cross – multiplication method : $2bx + ay = 2ab$, $bx - ay = 4ab$.
- 20) Solve by the method of substitution : $\frac{1}{2(2x+3y)} + \frac{12}{7(3x-2y)} = \frac{1}{2}$, $\frac{7}{2x+3y} + \frac{4}{3x-2y} = 2$.
- 21) Solve by the method of cross multiplication : $\frac{x}{a} - \frac{y}{b} = 2$, $ax + by = a^2 - b^2$.
- 22) Ved travels 600 km to his home partly by train and partly by car. He takes 8 hours if he travels 120 km by train and the rest by car. He takes 20 minutes longer if he travels 200 km by train and the rest by car. Find the speed of the train and the car.
- 23) Solve the following by elimination method : $\frac{3}{x+y} + \frac{2}{x-y} = 3$, $\frac{2}{x+y} + \frac{3}{x-y} = \frac{11}{3}$.

24) Solve by cross – multiplication method : $9 - (x - 4) = y + 7$, $2(x + y) = 4 - 3y$.