Work sheet

Pair of linear equations in two variables

1 solve by substitution method

(i) $2x + 3y = 9$ $3x + 4y = 5$

(II) $\frac{2}{a}x + \frac{y}{b} = 2$ $\frac{x}{a} + -\frac{y}{b} = 4$

(iii) $x + 2y = -1$ $2x - 3y = 12$

2 Solve by elimination method

(a) $\frac{x}{2} + y = 0.8$ $\frac{7}{x+\frac{y}{2}} = 10$

(b) $\frac{x}{a} + \frac{y}{b} = a + b$ $\frac{x}{a^2} + \frac{y}{b^2} = 2$

(c) $2x + y = 5$ $3x + 2y = 8$

3 Solve graphically

(a) $2x - 3y = 8$ $4x - 6y = 16$

(b) $2x + 3y = 12$ $2y - 1 = x$

(c) $3x - 4y + 3 = 0$ $3x + 4y - 21 = 0$

4 In a cyclic quadrilateral ABCD $< A = (2x + 4)^0$, $< B = (y+3)^0$, $< C = (2y+10)^0$, $< D = (4x - 5)^0$.Find all the four angles.

5 Two tables and three chairs together cost rupees 2000 whereas 3 tables and 2 chairs together cost rupees 2500. Find the total cost of one table and five chairs.

6 The sum of a two digit number and the number obtained by interchanging its digits is 110.If 10is subtracted from the first number, the new number is 4 more than 5 times the sum of the digits in the first number. Find the first number.

7 The sum of the numerator and the denominator of a fraction is 18. If the denominator is increased by2, the fraction reduces to $\frac{1}{3}$. Find the fraction.

8 Solve by cross multiplication method

(a) $\frac{a}{x} - \frac{b}{y} = 0$ $\frac{ab^2}{x} + \frac{ba^2}{y} = a^2 + b^2$

(b) $\frac{ax}{b} - \frac{by}{a} = a + b$ $ax - by = 2ab$

(c) $2x - y - 3 = o$ $4x + y - 3 = 0$

9 Amit bought 2 pencils and 3 chocolates for rupees 11 and Ajay bought 1 pencil and 2 chocolates for rupees 7.Represent this situation in the form of a pair of linear equations. Find the price of one pencil and that of one chocolate graphically.

10 Solve graphically: 3x- 4y +3 =0 and 3x +4y -21=0 . Find the coordinates of the vertices of the triangular region formed by these lines and the X axis. Also find the area of this triangle.

11 Solve:

$$\frac{1}{2(2x+3y)} + \frac{12}{7(3x-2y)} = \frac{1}{2}$$

$$\frac{7}{2x+3y} + \frac{4}{3x-2y} = 2$$

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