1. Solve graphically the following pairs of linear equations:
   (i) \[2x - y = 4\]
   \[3y - x = 3\]
   Also, find the coordinates of the points where these lines intersect the 2 axes.
   (ii) \[2x + 3y = 12\]
   \[x - y = 1\]
   Shade the region (area) between the 2 lines and x axis.
2. Find graphically the coordinates of the vertices of a triangle whose sides have the equations:
   (i) \[y = x, \ y = 0 \text{ and } 2x + 3y = 30\]
   (ii) \[2y - x = 8, \ 5y - x = 14 \text{ and } y - 2x = 1\]
3. Plot a graph for each of the following pairs of equations and shade the region bounded by the 2 lines and the x-axis.
   (i) \[x - y + 1 = 0\]
   \[2x + y - 10 = 0\]
   (ii) \[4x - 3y + 4 = 0\]
   \[4x + 3y - 20 = 0\]
   (iii) \[2x + y = 6\]
   \[2x - y + 2 = 0\]
   (iv) \[x + y = 5\]
4. Solve the following pair of linear equations graphically: \[3x + y - 11 = 0; \ x - y - 1 = 0\]
   Shade the region bound by these lines and the axis of y.
5. Solve each of the following pairs of linear equations graphically:
   (i) \[5x - 6y + 30 = 0\]
   \[5x + 4y - 20 = 0\]
   (ii) \[3x - 4y + 6 = 0\]
   \[3x + y - 9 = 0\]
6. Solve the following pairs of equations:
   (i) \[5m - 5n = 12; \ 2m + 9n = 20\]
   (vi) \[39x + 41y = 76; \ 41x + 39y = 84\]
   (ii) \[4x + 5y = 7\]
   (vii) \[\frac{x}{a} + \frac{y}{b} = a + b\]
   \[\frac{3x}{4} + 4y = 5\]
   \[\frac{x}{a^2} + \frac{y}{b^2} = 2\]
   (iii) \[x - y = 0.9\]
   (viii) \[a(x + y) + b(x - y) = a^2 + b^2 - ab\]
   \[\frac{11}{x} + y = 2\]
   \[a(x + y) - b(x - y) = a^2 + b^2 + ab\]
   (iv) \[8x - 3y = 5xy; \ 6x - 5y = -2xy\]
   (ix) \[\frac{x}{a} - \frac{y}{b} = a - b; \ \frac{x}{a^2} - \frac{y}{b^2} = 0 (a \neq b)\]
   (v) \[99x + 101y = 499; \ 101x + 99y = 501\]
7. If \[2x + y = 35\] and \[3x + 4y = 65\], find the value of \[\frac{x}{y}\]
8. Find the value of \(c\) for which the pair of equations : \[2x + cy = 1; \ 3x + 5y = 7\] will have
   (i) a unique solution; (ii) no solution. Is there a value of \(c\) for which the system has infinite number of solutions?
9. Find the value of \(k\) for which the following pairs of equations have unique solutions:
   (i) \[7x - 2y = 3; \ 22x - ky = 8\]
   (ii) \[2x + ky = 1; \ 3x - 5y = 7\]
   (iii) \[2x + 3y - 5 = 0; \ kx - 6y - 8 = 0\]
10. For what value(s) of \(k\) will the pair of linear equations: \[kx + 3y = k - 3; \ 12x + ky = k\] have a unique solution?
11. Last year 1 kg of tea and 3 kg of sugar together cost Rs 96. This year, the rates of tea increased by 15% and that of sugar by 10%. So the amount of tea and sugar now cost Rs. 108.60. Find the per kg rates of tea & sugar last year.
12. A boat goes 24 km upstream & 28 km downstream in 6 hours. In 6.5 hours, it can go 30 km upstream & 21 km downstream. Find the speed of stream and the speed of boat in still water.
13. A person invests some amount @ 12% S.I. and some other amount @ 10% S.I. He receives an annual interest of Rs.1300. But if he interchanges the amounts invested, he shall receive Rs.40 more as interest. How much has he invested at each rate?

14. If 1 is added to both the numerator and the denominator of a fraction, it becomes equal to $\frac{7}{8}$. If, however, 1 is subtracted from both the numerator & denominator of the same fraction, it becomes equal to $\frac{6}{7}$. Find the fraction.

15. The age of a father 8 yrs back was 5 times that of his son. After 8 yrs, his age will be 8 yrs more than double the age of his son. Find their present ages.

16. There are some lotus flowers in a lake. If 1 butterfly sits on each flower, one butterfly is left behind. If 2 butterflies sit on each flower, 1 flower is left behind. What is the no. of flowers? What is the no. of butterflies?