

EXERCISE 3.2

- Form the pair of linear equations in the following problems, and find their solutions graphically.
 - 10 students of Class X took part in a Mathematics quiz. If the number of girls is 4 more than the number of boys, find the number of boys and girls who took part in the quiz.
 - 5 pencils and 7 pens together cost ₹ 50, whereas 7 pencils and 5 pens together cost ₹ 46. Find the cost of one pencil and that of one pen.
- On comparing the ratios $\frac{a_1}{a_2}$, $\frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$, find out whether the lines representing the following pairs of linear equations intersect at a point, are parallel or coincident:
 - $5x - 4y + 8 = 0$
 $7x + 6y - 9 = 0$
 - $9x + 3y + 12 = 0$
 $18x + 6y + 24 = 0$
 - $6x - 3y + 10 = 0$
 $2x - y + 9 = 0$
- On comparing the ratios $\frac{a_1}{a_2}$, $\frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$, find out whether the following pair of linear equations are consistent, or inconsistent.
 - $3x + 2y = 5$; $2x - 3y = 7$
 - $2x - 3y = 8$; $4x - 6y = 9$
 - $\frac{3}{2}x + \frac{5}{3}y = 7$; $9x - 10y = 14$
 - $5x - 3y = 11$; $-10x + 6y = -22$
 - $\frac{4}{3}x + 2y = 8$; $2x + 3y = 12$
- Which of the following pairs of linear equations are consistent/inconsistent? If consistent, obtain the solution graphically:

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- $x + y = 5$, $2x + 2y = 10$
 - $x - y = 8$, $3x - 3y = 16$
 - $2x + y - 6 = 0$, $4x - 2y - 4 = 0$
 - $2x - 2y - 2 = 0$, $4x - 4y - 5 = 0$
- Half the perimeter of a rectangular garden, whose length is 4 m more than its width, is 36 m. Find the dimensions of the garden.
 - Given the linear equation $2x + 3y - 8 = 0$, write another linear equation in two variables such that the geometrical representation of the pair so formed is:
 - intersecting lines
 - parallel lines
 - coincident lines
 - Draw the graphs of the equations $x - y + 1 = 0$ and $3x + 2y - 12 = 0$. Determine the coordinates of the vertices of the triangle formed by these lines and the x -axis, and shade the triangular region.