

Matrix

Exercise 1.6 for Class IX

Q.1: Use matrices, if possible, to solve the following systems of linear equations by:

i. Matrix inversion method

ii. Cramer's rule

(i). $2x - 2y = 4$
 $3x + 2y = 6$

(ii). $2x + y = 3$
 $6x + 5y = 1$

(iii). $4x + 2y = 8$
 $3x - y = -1$

(iv). $3x - 2y = 4$
 $-6x + 4y = 7$

(v). $3x - 2y = 4$
 $-6x + 4y = 7$

(vi). $4x + y = 9$
 $-3x - y = -5$

(vii). $2x - 2y = 4$
 $-5x - 2y = -10$

Q.2: The length of a rectangle is 4 times its width. The perimeter of the rectangle is 150 cm. Find the dimensions of the rectangle.

Q.3: Two sides of a rectangle differ by 3.5cm. Find the dimensions of the rectangle if its perimeter is 67cm.

Q.4: The third angle of an isosceles triangle is 16° less than the sum of the two equal angles. Find three angles of the triangle.

Q.5: One acute angle of a right triangle is 12° more than twice the other acute angle. Find the acute angles of the right triangle.

Q.6: Two cars that are 600 km apart are moving towards each other. Their speeds differ by 6 km per hour and the cars are 123 km apart after $4\frac{1}{2}$ hours. Find the speed of each car.