UNIT 5: COORDINATE GEOMETRY

5 marks:-

1. Find the area of a triangle whose Vertices are:
   (i) (−3, 5), (5, 6) and (5, −2)
   (ii) (1, −1), (−4, 6) and (−3, −5)
   (iii) (−10, −4), (−8, −1) and (−3, −5)

2. Find the Area of a Quadrilateral whose Vertices are
   (i) (8, 6), (5, 11), (−5, 12) and (−4, 3)
   (ii) (−9, −2), (−8, −4), (2, 2) and (1, −3)
   (iii) (−9, 0), (−8, 6), (−1, −2) and (−6, −3)

3. (4) Show that the points are Collinear:
   (i) P(−1·5, 3), Q(6, −2), R(−3, 4)
   (ii) (a, b+c), (b, c+a) and (c, a+b)
   (iii) (−2, 5), (6, −1), and (2, 2)

4. (4) If the area of the triangle formed by the Vertices A(−1, 2), B(k, −2) and C(7, 4) is 22 Sq.units, find "k"?

5. (4) Find the Value of k, if the area of a Quadrilateral is 28 Sq.units, whose Vertices are (−4, −2), (−3, k), (3, −2) and (2, 3).

6. (4) Find the Value of "a", the given points are Collinear.
   (i) (2, 3), (4, a) and (6, −3) (ii) (3, −1), (a, 3) and (1, −3)

7. A line makes positive intercepts on Coordinate axes whose Sum is 7. and it passes through (−3, 8). Find its Equation.

8. (4) Find the equation of a Straight line passing through (1, −4) and has intercepts are in the ratio 2:5

9. Show that the points form a right angled triangle (i) (1, −4), (2, −3) and (4, −7)
   (ii) A(1, −4), B(2, −3) (4, −7)
   (iii) L(0, 5), M(9, 12) and (3, 14)

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10. Find the equation of a line passes through (5,7) and makes intercepts on the axes equal in magnitude but opposite in sign.

Practice problems:-

Page No: 206 : Example : 5.5 (x)
: 207 : Example : 5.7
: 209 : Exercise : 5.1 (9) (10)

2 marks:-

1. (i) What is the slope of a line whose inclination 30°?
(ii) what is the inclination of a line whose slope $\sqrt{3}$?
2. Find the slope of the given points:
(i) (-6,1) and (-3,2) (ii) (14,10) and (14,-6)
3. Let A(1,-2), B(6,-2), C(5,1) and D(2,1), Find the slope of (i) AB (ii) CD (iii) BC (iv) AD.
4. Find the equation of a straight line whose slope is 5 and intercept is -9.
5. Find the equation of the line passing through the point (3,-4) and having slope $-\frac{5}{7}$.
6. Find the slope of straight line $6x+8y+7=0$
7. Find the slope of (i) $3x-7y=11$
(ii) $2x-3y+8=0$.
8. Show that $2x+3y-8=0$ & $4x+6y+18=0$ parallel.
9. Show that $x-2y+3=0$ & $6x+3y+8=0$ perpendicular.
10. Find the equation of a straight line which is parallel to the line $3x-7y=12$ passing through the point (6,4).

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