Question no. 2

Find the perpendicular distance from the point P (5, 6) to the line AB ,-2*x* + 3*y* + 4 = 0, using the distance of the point from a line formula.

Solution:

We know that the distance of the point from the line is given by,

$d = |Ax_1x1 + By_1y1 + C| / \sqrt{(A^2 + B^{2)}}$

Here, the coordinates of the point P is $P(x_1x1, y_1y1)$= (5, 6), and A = -2, B =3 and C = 4

$d = |((-2)(5) + (3)(6) + 4)/ \sqrt{((-2)^2+(3)^2)}$

$= |-10 + 18 + 4|/ \sqrt{(4 + 9)|}$

$= |12/\sqrt{(13)}|$

= 3.328

So, the perpendicular distance from the point P (5, 6) to the line AB −2*x* + 3*y* + 4 = 0 is 3.32 units