3/12/2020
THURSDAY

MATHEMATICS

STD - X
class - 71

1. Find the points on the x-axis which are at a distance of 5 units from (3, 4).

Ans) Let the point on x-axis be (k, 0)

using distance formula we have

$\sqrt{(k-3)^2+(0+4)^2} = 5$ units

$\sqrt{(k-3)^2+16} = 5$

squaring both sides, we have

$(k-3)^2 + 16 = 25$

$(k-3)^2 = 25 - 16 = 9$

$k - 3 = \sqrt{9} = \pm 3$

$k = 3 + 3 = \underline{9}$

$k = -3 + 3 = \underline{0}$

$\therefore$ points on x-axis are = (9, 0), (0, 0)