

Orange monkey team

Mth101 Assignment No.01 Solution Fall2021

Question:

$(x^2 - 2x + y^2 - 4y - 4 = 0)$ is the line and $(2x - y + a = 0)$ is its Diameter Then Find the Value Of "a"

Solution:

$$x^2 - 2x + y^2 - 4y - 4 = 0 \dots\dots(1)$$

$$2x - y + a = 0 \dots\dots(2)$$

We know that equation of Circle is

$$x^2 + y^2 + 2gx + 2fy + c = 0. \dots\dots(3)$$

By comparing this with eq.....(1)

$$2g = -2$$

$$g = -2 / 2$$

$$g = -1$$

$$2f = -4$$

$$f = -4 / 2$$

$$f = -2$$

We know that

$$C (-g, -f)$$

$$C (-(-1), -(-2))$$

$$C (1, 2)$$

By putting values in equation In Equ (3)

$$2x - y + a = 0$$

$$2(1) - (2) + a = 0$$

$$2 - 2 + a = 0$$

$$-2 + a = -2$$

$$a = -2 + 2$$

$$a = 0$$