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**Course Code:MTH101**

**Assignment No:1**

**Question:**

Consider the equation of a circle x2-2x+4y-4=0. If the line 2x-y+a=0 is its diameter.

Then find the value of a.

**Solution :**

General form of equation of circle

X2+y2+2gx+2fy+c=0

Center (-g, -f) and

Radius=

Given circle equation

X2-2x+y2-4y-4=0

This can be written as

X2+y2-2x-4y-4=0

Comparing general equation and given equation of circle

2g=-2

g=-1

2f=-4

F=-2

And

C=-4

So, Centre (-g,-f) = (1,2)

And radius = 3

Because diameter passing through the Centre so Centre point satisfied the given diameter equation

Given diameter equation

2x-y+a = 0

2(1)-2+a=0

2-2+a=0

a=0