**Assigment MTH301**

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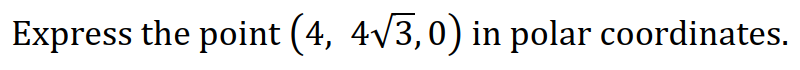
**Question # 1: **

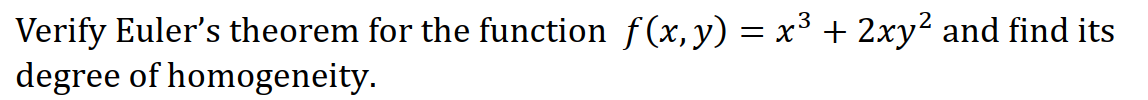
**Solution:**

1.Partial derivative with respect to x:

By using product rule:  


2.Partial derivative with respect to y:  


**Question # 2:** **Solution:**

coordinates (x,y,z)(x, y, z)(x,y,z) to cylindrical or polar coordinates (r,θ,z)(r, θ, z)(r,θ,z), where:  
  
  
z= remain same  
Given :   
  
  
  
  
  
The polar (cylindrical) coordinates of the point (4,43,0)(4, 4\sqrt{3}, 0)(4,43​,0) are:  
  
(r, θ,z)=(8, ,0)  
  
**Question # 3:** **Solution:**Partial derivative with respect to x:  
f(x,y)=   
  
Partial derivative with respect to y:  
