**EXAMPLE 2:** write an equation for the tangent line at  of the curve 

Sol:

Equation of tangent line 





The slope of 









Equation of tangent









**Trigonometric function**

1.  
2.  
3.  
4.  
5.  
6.  

**EXAMPLE 1:** Prove that 

Sol:









**EXAMPLE 2:** Prove that 

Sol:







**EXAMPLE 3:** Find  for the following function

1. 

Sol:



1. 

Sol:





**Hint:**

1.  
2.  
3.  
4.  
5.  
6.  

**EXAMPLE 1:** Find for the following function.

1. 



  








1. 







1. 





1. 









1. 





**Transcendental function derivative**

1. **Logarithm function الدالة الوغارتيمية**
2. If  

**EXAMPLE:** 



1. 

**EXAMPLE:**  

1. If 



**EXAMPLE 1:** 



**EXAMPLE 2:** Find  for the following function:

1. 

Sol:



1. 

Sol:





1. 

Sol:





1.  find 

Sol:









1. 

Sol:





