**EXAMPLE 6:**  

Sol:

 

**EXAMPLE 7:** If 

Sol:

 



**EXAMPLE 8:** If  find 

Sol:



 

**EXAMPLE 9:** If find 

Sol:



**EXAMPLE 10:** If  find 

Sol:





**EXAMPLE 11:**  

Sol:



**Hyperbolic function**

If is any differentiable function of 

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

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

1. 

Sol:

 

1. 

Sol:

 

1. 

Sol:

 

 

1. 

Sol:

 

 

1. 

Sol:

 

 

1. 

Sol:

 



**EXAMPLE 2:** Prove that 

Sol:

 

 





**EXAMPLE 3:** Prove that 

Sol:

 

 

**EXAMPLE 4:** Show that the functions

 

Taken together, satisfy the differential equation

1. 
2. 

Proof: I

 



1. 
2. 