Worksheet 7

1. Find power series representation of the given function, 
   1. 
   2. 
   3. 
   4. 
   5. 
   6. 
2. Differentiate the given function and write down the power series of the derivative using term-by-term differentiation of the series representation of the original function
   1. 
   2. \_\_\_\_\_\_\_
   3. \_\_\_\_\_\_\_
3. Find the power series representation of following functions using term-by-term differentiation
   1. 
   2. 
   3. 
4. Integrate the given function and write down the power series of the result using term-by-term integration of the series representation of the original function.
   1. 
   2. 
   3. 
5. Find the power series representation of following functions using term-by-term integration
   1. 
   2. 
   3. 