Assignment 5

MA06 Complex Analysis Deadline 11:59 AM, 20190104

1. Find all values of the given complex power. (Hint: Example 4.2.1 in Lecture 5)
   (a) $(-1)^{3i}$
   (b) $(1+\sqrt{3}i)^{i}$
2. Find the principal value of the given complex power $(-1)^{3i}$. (Hint: Example 4.2.2 in Lecture 5)
3. Express the value of the given trigonometric function in the form $a+ib$. (Hint: Example 4.3.1 in Lecture 5)
   (a) $\sin(4i)$
   (b) $\cot(\pi+2i)$
4. Find the solution to the equation $\cos z = 0$, where $z \in \mathbf{C}$. (Hint: Check the Example in the Page 32 of Lecture 5 Slides.)
5. Find the derivative of the given function $\cos(ie^{z})$.

Notice: Please write Your Name and Student ID when you submit.