1. Evaluate the following expressions and write your answer in the form $a + bi$.
   
   (a) $\frac{2}{1 - 3i}$
   
   (b) $(5 - 2i)(-3 - i)$

2. Find the equation of the plane passing through the point $(1, 0, -3)$ and parallel to the plane $z = 2x + 3y$.

3. (a) Write Taylor’s Series for the function $f(x) = \sin x$ at $x_0 = \pi$.
   
   (b) Estimate the values of $x$ for which the corresponding Taylor polynomial of order 2 is accurate to within .01.

4. What is the equation for the curve which is the intersection of the vertical plane $P_1$ through $(0, 0, 0)$ and $(1, 2, 0)$ and the plane $P_2$ given by $2x + 6y + 3z = 4$. To maximize partial credits first write down a clear description of $P_1$.

5. Evaluate the following expressions and write your answer in the form $a + bi$.
   
   (a) $(1 + i)^{50}$
   
   (b) $e^{6+2i}$