Worksheet 2
Due: Tuesday, September 2

Remember, where appropriate, explain how you got your answers! No calculators are allowed or needed.

1. Graph and convert to exponential form.

   (a) $i - 1$

   (b) $-\sqrt{3} - i$

   (c) $-4i$

2. Graph and convert to rectangular form.

   (a) $2e^{3\pi i/2}$

   (b) $7e^{i\pi}$

   (c) $-3e^{i\pi/2}$

   (d) $e^{61i\pi/4}$

3. Show that $\overline{e^{i\theta}} = e^{-i\theta}$.

4. Let $z = 2 + 3i$. Determine the complex number one obtains by rotating z by $\pi/4$. (Hint: this can be accomplished by a single multiplication.)