Do as many of the problems you can now, turn them in. I will post the quiz in the webpage. Please redo any problem you did not have time to finish, or any turned in problem for a second chance. Bring your solutions on Tuesday 9/3/2013.

1. Show that \( e^{z+i \pi} = -e^z \) for all \( z \in \mathbb{C} \).

2. Show that \( \overline{e^z} = e^\overline{z} \) for all \( z \in \mathbb{C} \) ("the conjugate of the exponential is the exponential of the conjugate").
3. Show that if $\text{Re} \, z \leq 0$ then $|e^z| \leq 1$.

4. Describe the set $S$ in the complex plane given by

$$S = \{ z \in \mathbb{C}: |z - 2 + i| \geq 3 \},$$

and find its boundary. Is $S$ an open set? a closed set? a bounded set?