Ordinary Differential Equations

Homework 4

Given: September 29
Due: October 6 (note: Thursday, not Tuesday)

Section 3.3, Ignore questions 1 - 10, which either are misleading or are just plain wrong.
Section 3.3, problems 11, 12, 15, 25.
Also: Find all complex numbers, z, so that $\sin(z) = 2$. The formula $\sin(x) = \dfrac{e^{ix} - e^{-ix}}{2i}$ allows us to define $\sin(z)$ by using z for x on the right side. Note that $e^{-iz} = 1/e^{iz}$ and that the equation $u + 1/u = w$ can be solved by multiplying by u and using the quadratic formula. The answer is not terribly simple, so one aspect of the problem is to express it as simply as possible using well chosen notation.