Math 504: Complex variables (Spring, 2000)

I'll try to verify the following statements:

- If g is smooth in U, open in $\mathbb{C}$, then $\dfrac{\partial f}{\partial \overline{z}} = g$ has a solution f also smooth in U.
- Any non-compact Riemann surface has a non-constant holomorphic function.
- Any compact Riemann surface has a non-constant meromorphic function.

Text (optional) *Lectures on Riemann Surfaces* by Otto Forster, Springer-Verlag, 1981/4. There are other fine books on Riemann surfaces. The contents of this one are closest to what I hope to do. It is well-written and covers many interesting additional topics.

Background The standard first semester course in complex analysis (Math 503). Other ideas from analysis and differential geometry will be helpful but not necessary.

M & Th 2^{nd} period (9:50-11:10) S. Greenfield, Hill 542, `greenfie@math.rutgers.edu`