We prove a Liouville theorem for the Navier-Stokes equations in two space dimensions, that bounded solutions $u(x, t) = (u_1(x, t), u_2(x, t)), x \in \mathbb{R}^2, t \in \mathbb{R}$, of the equations

$$u_t - \Delta u + (u \cdot \nabla)u + \nabla p = 0$$

$$\text{div} \ u = 0$$

are of the form $u(x, t) = u_0(t)$. In particular, in the steady-state case, bounded solutions are constant. (Note that we do not need any assumptions regarding the pressure, $p(x, t)$.) (Received September 27, 2005)