Additional problem for Section 5B:

Let f be an entire function.
Suppose that $|f(z)| > 2$ (*) for all $z \in \mathbb{C}$.

Set $g(z) := \frac{1}{f(z)}$. Then g is entire,

since $f(z)$ is nowhere zero, by (*), and $f(z)$ is entire. Now,

$$|g(z)| = \frac{1}{|f(z)|} \underset{\text{by (*)}}{<} \frac{1}{2}.$$

Hence, g is entire and bounded, and so constant by Liouville's Theorem!