Math 4200-001
Week 8 concepts and homework
2.4-2.5
Due Wednesday October 23 at start of class.

2.4 3, 5 (hint: identify the contour integrals as formulas for certain derivatives of analytic functions at certain points), 7, 8, 12, 16, 17, 18.
2.5 2, 5, 6, 7, 8, 15, 18.

w8.1 Let $f: \mathbb{C} \to \mathbb{C}$ be entire. Suppose that f grows at most like a power of z, as $z \to \infty$. In other words, suppose there exists $M, n \in \mathbb{N}$ such that for $|z| \geq 1$, $|f(z)| \leq M|z|^n$. Then prove that $f(z)$ must be a polynomial, and that its degree is at most n.