Mathematics 552 Quiz #7 Name:_____

1. Let Γ be a simple closed contour and let $f(z)$ be analytic inside and on Γ. Let z_0 be inside of Γ. Give the variant of the Cauchy Integral Formula for the n-th derivative of $f(z)$ at $z = z_0$.

$$f^{(n)}(z_0) =$$

2. Let Γ be a contour and let $f(z)$ be continuous on Γ and satisfy $|f(z)| \leq M$ on Γ. Then give an estimate on $\left|\int_\Gamma f(z)\,dz\right|$ in terms of M and length(Γ).

$$\left|\int_\Gamma f(z)\,dz\right| \leq$$