Home work. Sept 24,2015

1. Compute the integrals:
   a) $\int_{|z|=1} e^z z^{-n} dz$
   b) $\int_{|z|=\rho} |z-a|^{-4} |dz|,\ \rho \neq |a|$

2. If $f(z)$ is analytic in $|z| < R$ and $\rho < R$ obtain an upper bound for $\sup_{|z|\leq\rho} |f^{(n)}(z)|$ where $f^{(n)}$ is the n-th derivative of f.