Let $z \epsilon C$ For any positive integer k, $|z^k| = |z|^k$ Proof by induction.
$k^1 = |k|^1$.
$z^{k+1} = z^k \cdot z$
By 4 of modulus properties $|z^k \cdot z| = |z^k| \cdot |z| = z^{k+1}$