

Exercise 9

By factoring $z^4 - 4z^2 + 3$ into two quadratic factors and using inequality (8), Sec. 4, show that if z lies on the circle $|z| = 2$, then

$$\left| \frac{1}{z^4 - 4z^2 + 3} \right| \leq \frac{1}{3}.$$