

COMPLEX ANALYSIS, HW # 2

Chapter 6, problems 11, 12, 17, 20, 21, 22, and this problem:

Problem 1.

Given $w \in \mathbb{C}$ and $\varepsilon > 0$, set $\mathcal{F} = \{z \mapsto z^n, n \in \mathbb{N}, z \in D(w, \varepsilon)\}$. For which pairs (w, ε) this family of functions $D(w, \varepsilon) \rightarrow \mathbb{C}$ is normal (use the definition of a normal family from Problem 22 in Chapter 6)?