

Exercise. Let f be entire. Show if f is not a constant function, then $f(\mathbb{C})$ is dense in \mathbb{C} .

Hint: We could have done this exercise awhile back but it now makes a nice comparison with the Casorati-Weierstrass Thm. (Thm III.2.6: z_0 essential sing. $\Rightarrow f(B'_\varepsilon(z_0))$ is dense in \mathbb{C}).