



Math for the people, by the people.

z_0 is a pole of f

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Let f be an analytic function on a punctured neighborhood of $x_0 \in \mathbf{C}$, that is, f analytic on

$$\{z \in C : 0 < |z - x_0| < \varepsilon\}$$

for some $\varepsilon > 0$ and such that

$$\lim_{z \rightarrow z_0} |f(z)| = \infty.$$

We say then that x_0 is a pole for f .