

AMP Sheet 7

Holomorphic \equiv Analytic \equiv Differentiable

Cauchy-Riemann Equations to test for Differentiability
For a complex function defined as:

$$f(z) = u(x, y) + jv(x, y)$$

$$\frac{\partial u}{\partial x} = \frac{\partial v}{\partial y} \quad \text{and} \quad \frac{\partial u}{\partial y} = -\frac{\partial v}{\partial x}$$