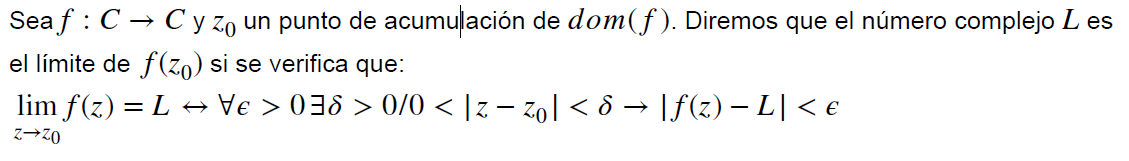
**Resumen Teórico AM III**

Funciones de Variable Compleja

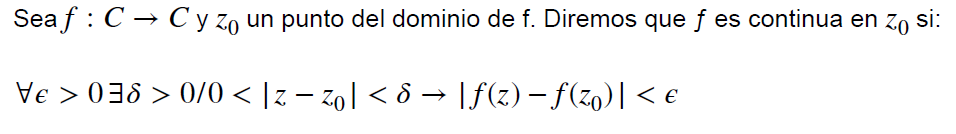
Las funciones de variable compleja tienen espacio de partida y espacio de llegada en los números complejos.

*f* : *C* → *C*

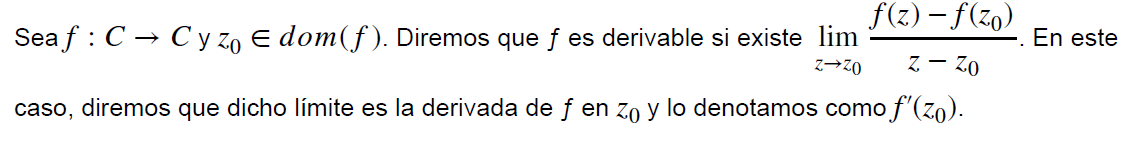
* Limite:



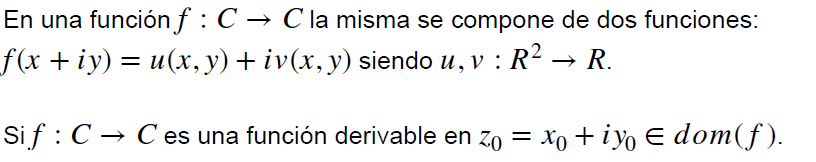
* Continuidad:

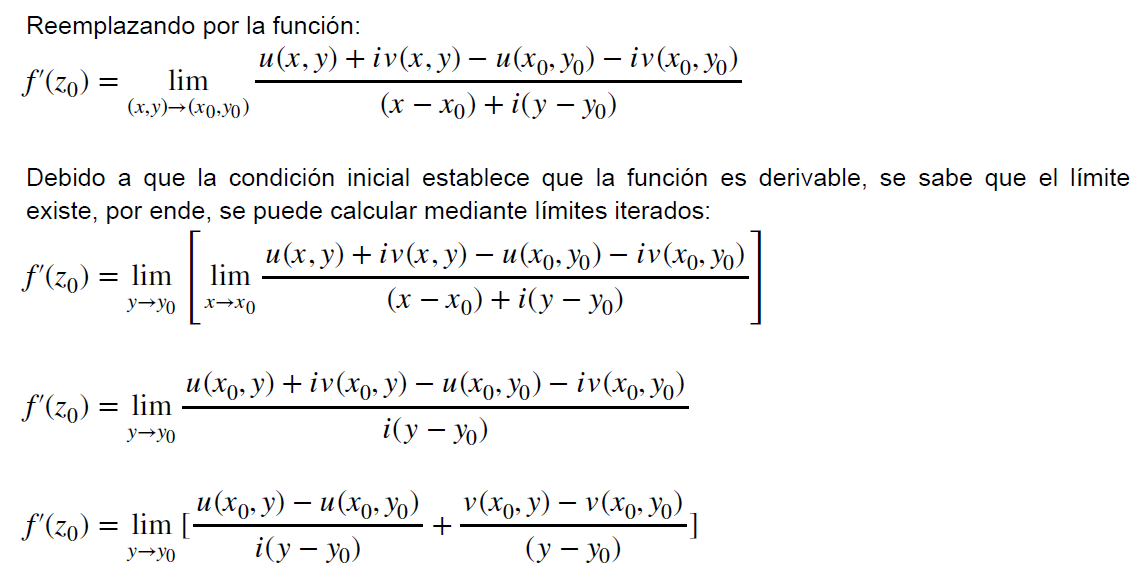


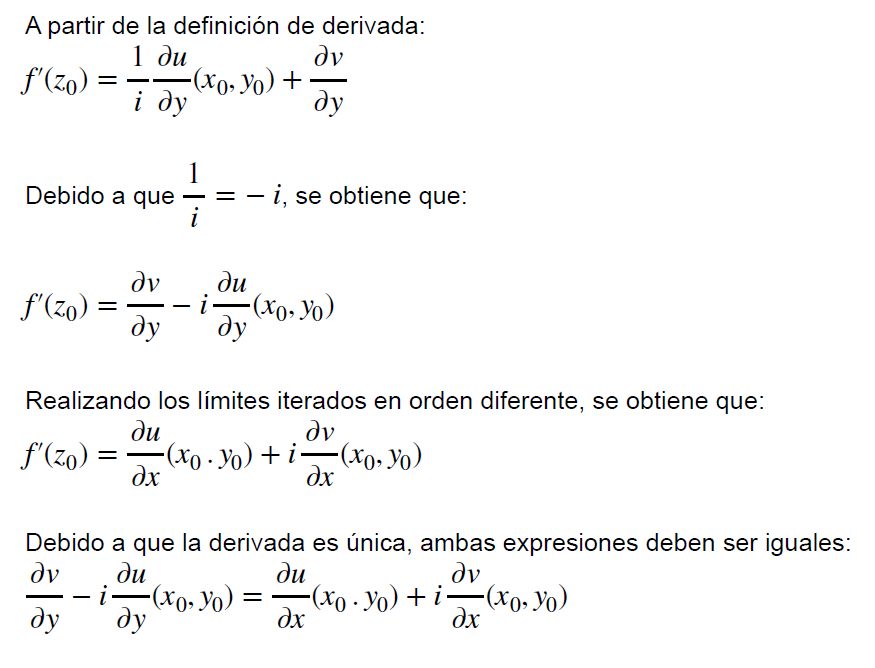
* Derivada:

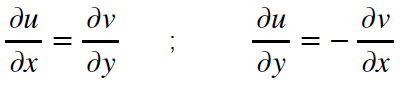


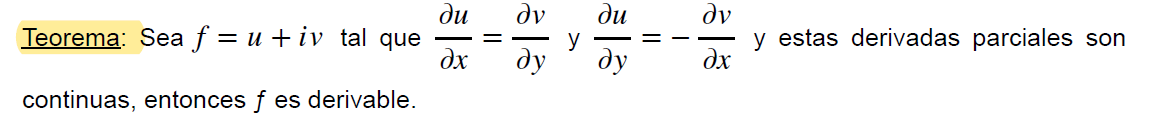
Ecuaciones de Cauchy-Riemann



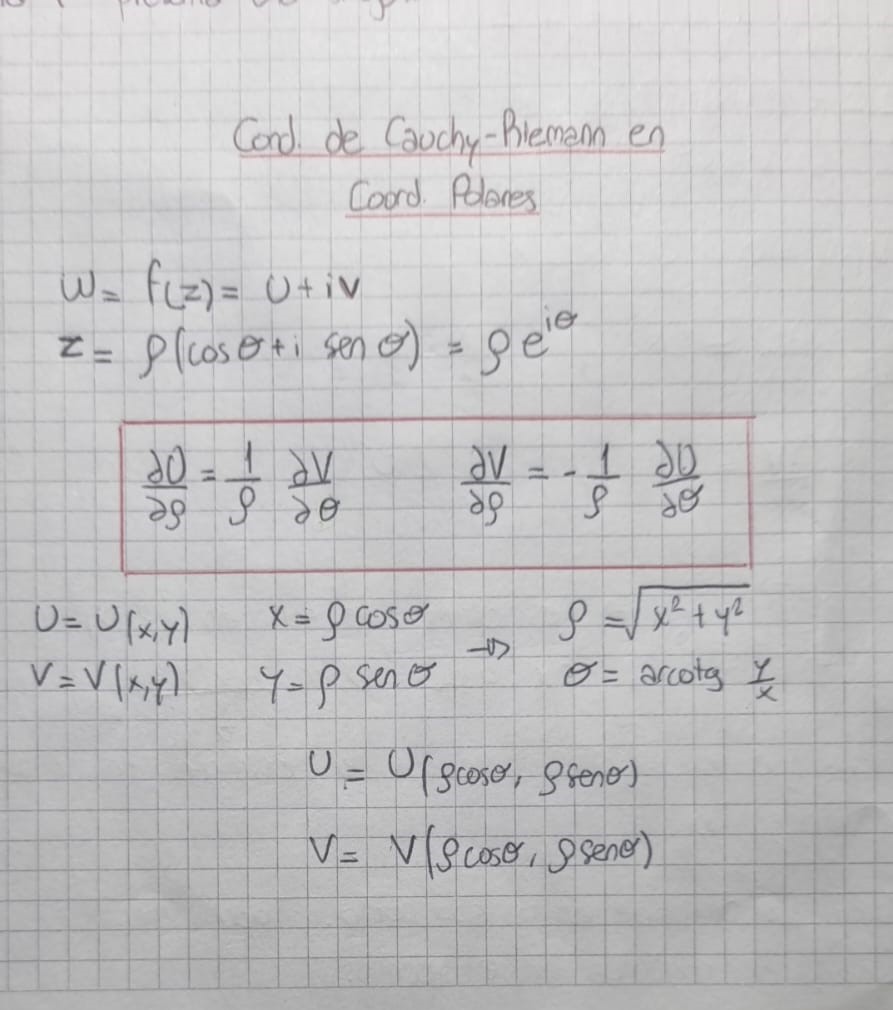


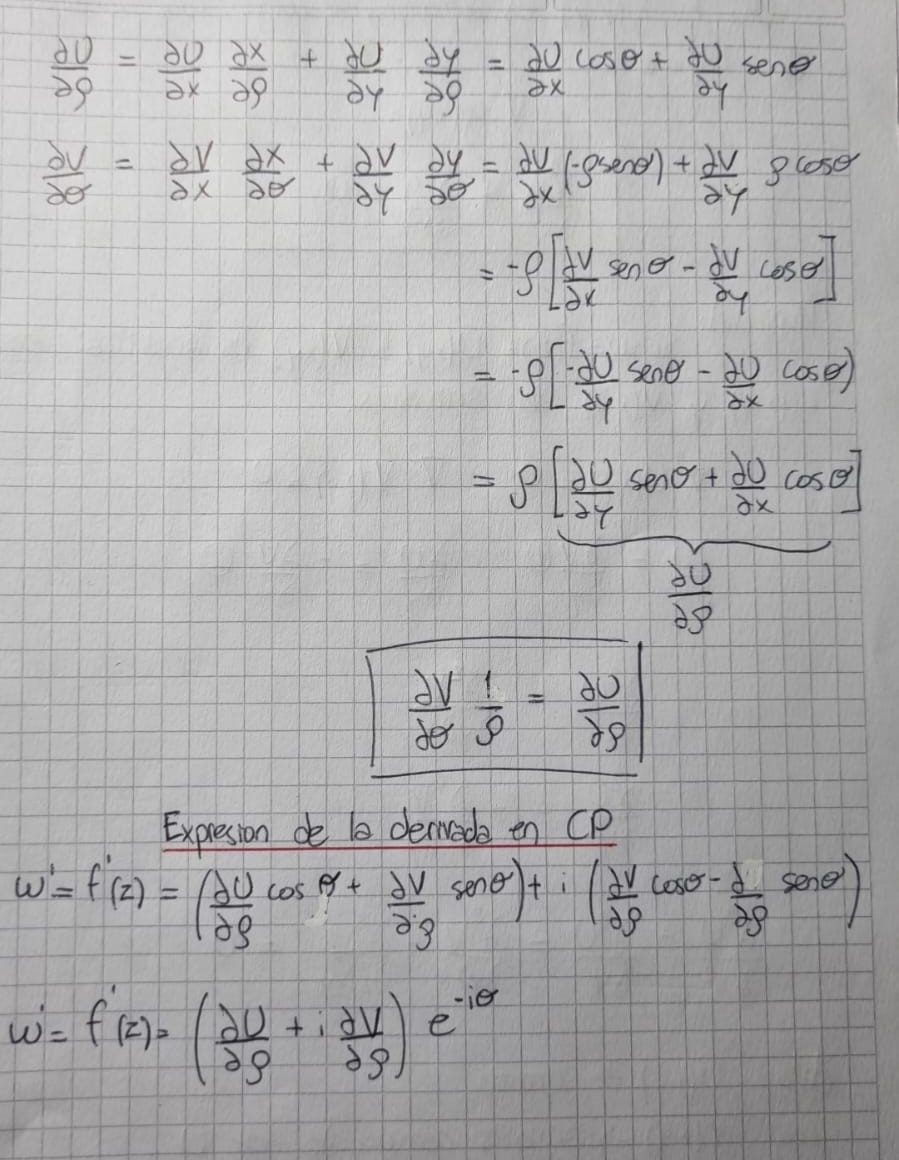




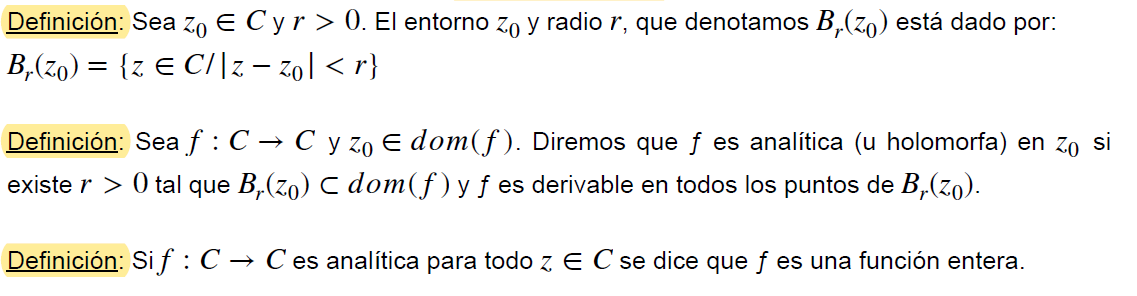


Ecuaciones de Cauchy-Riemann en Polares

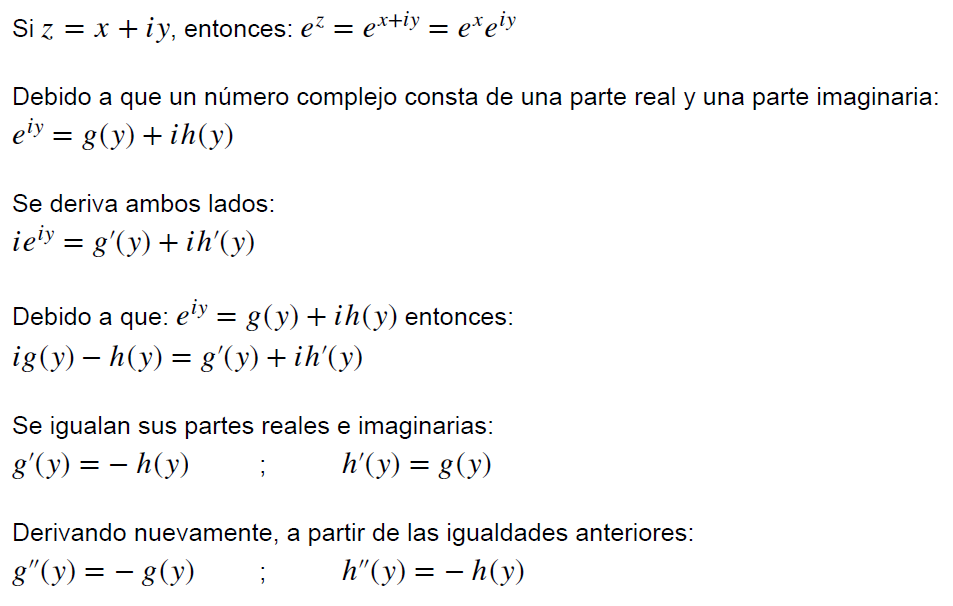


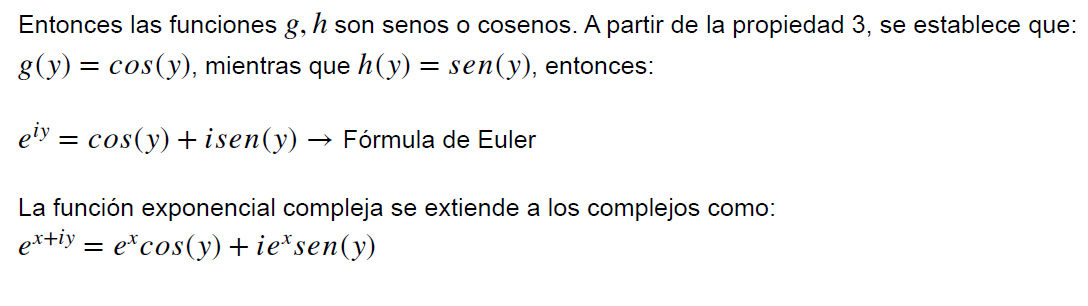


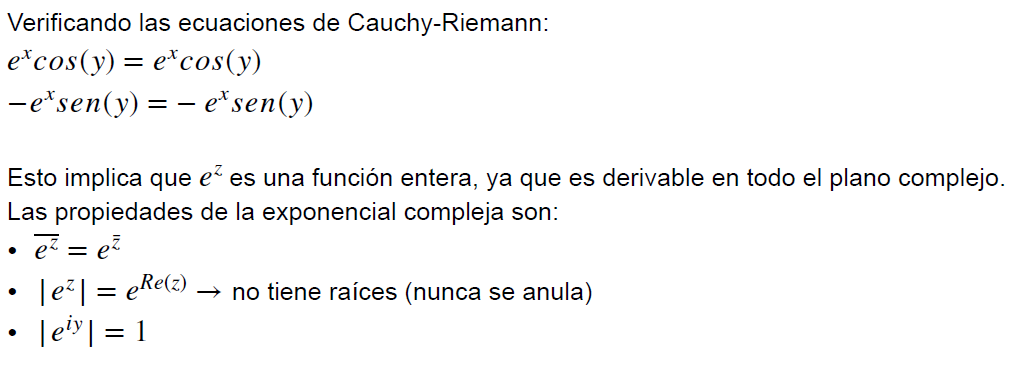
Funcion Analitica

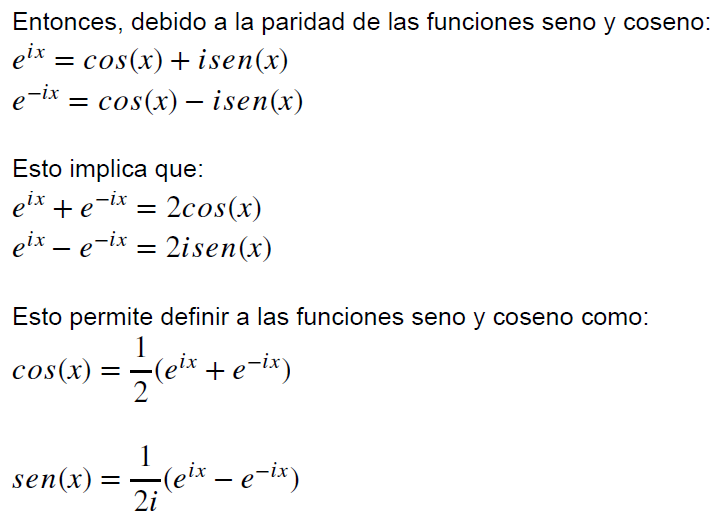


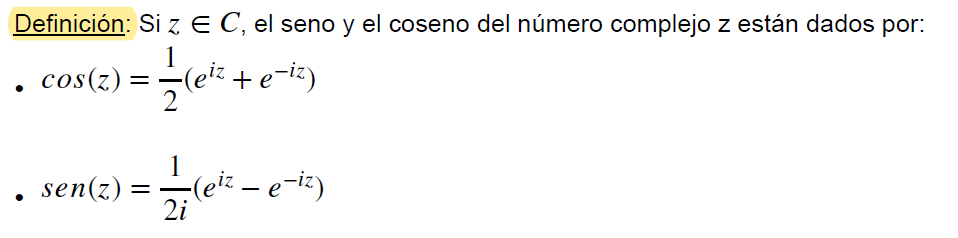
Función Exponencial Compleja y Trigonométricas

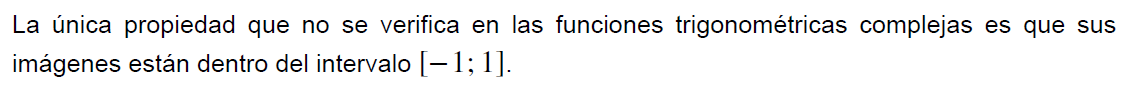




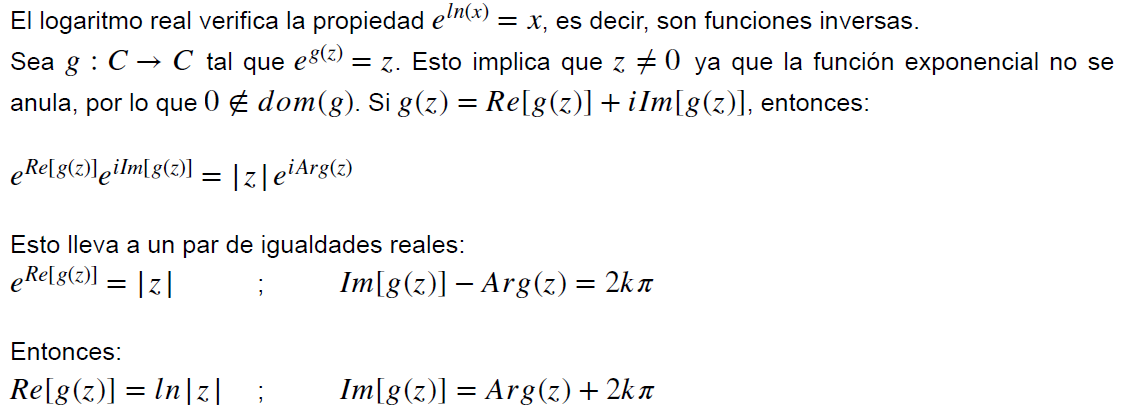








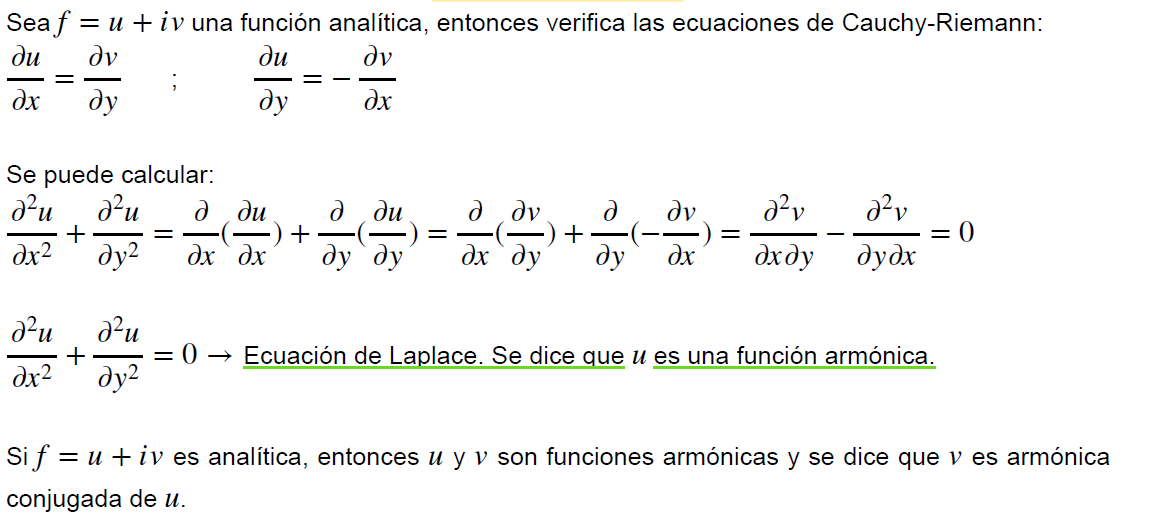
Función Logarítmica Compleja



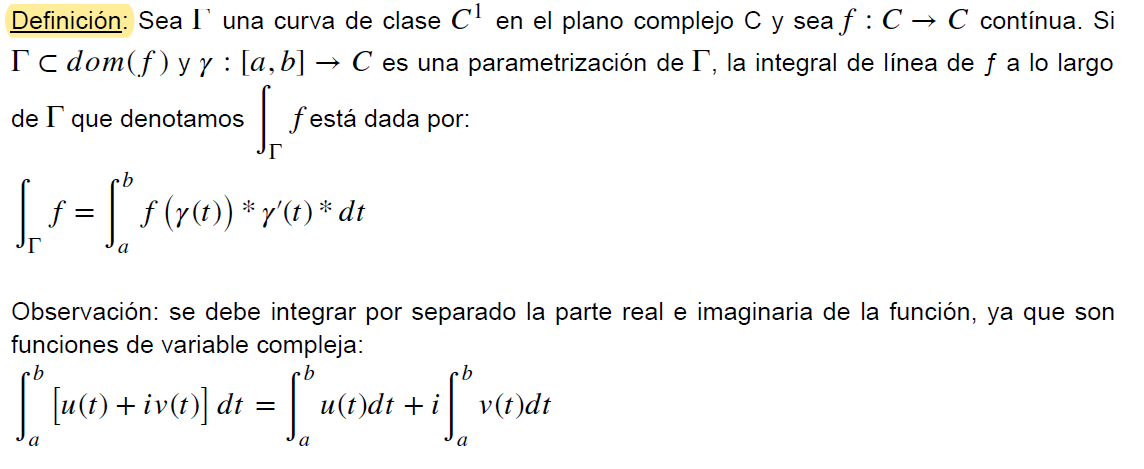
Exponentes complejos

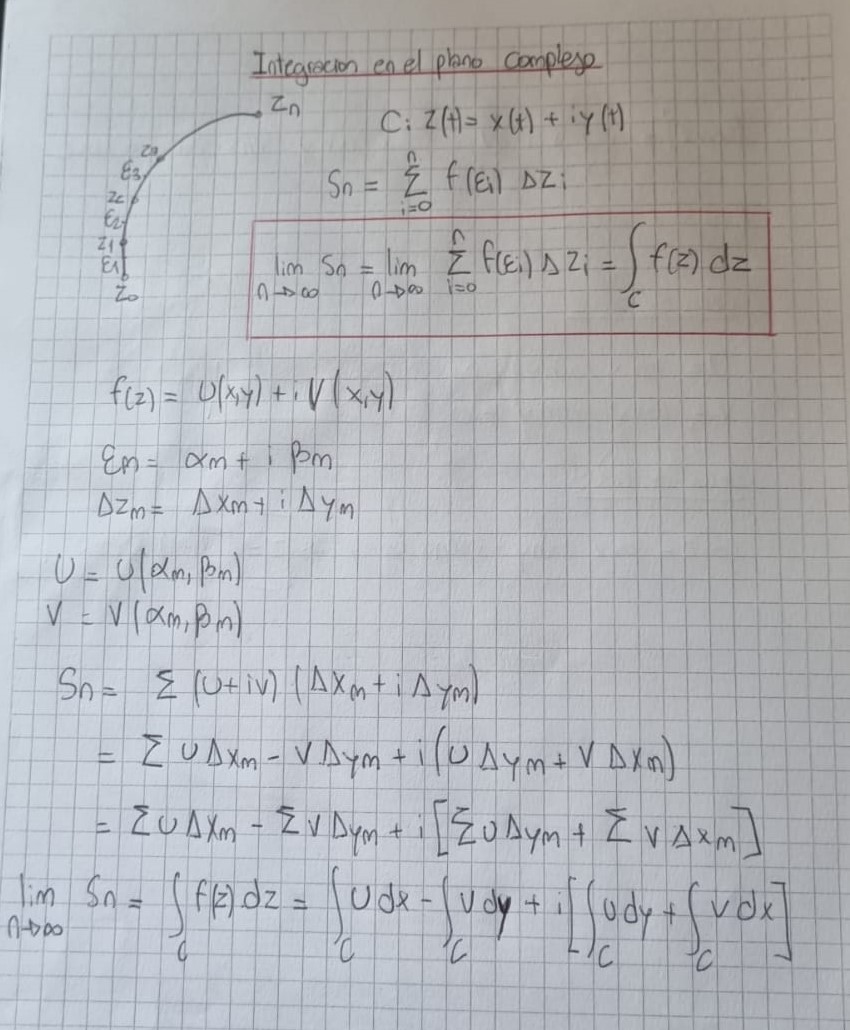


Ecuación de Laplace

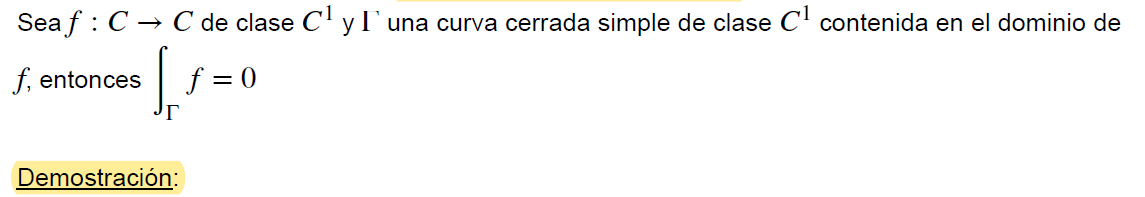


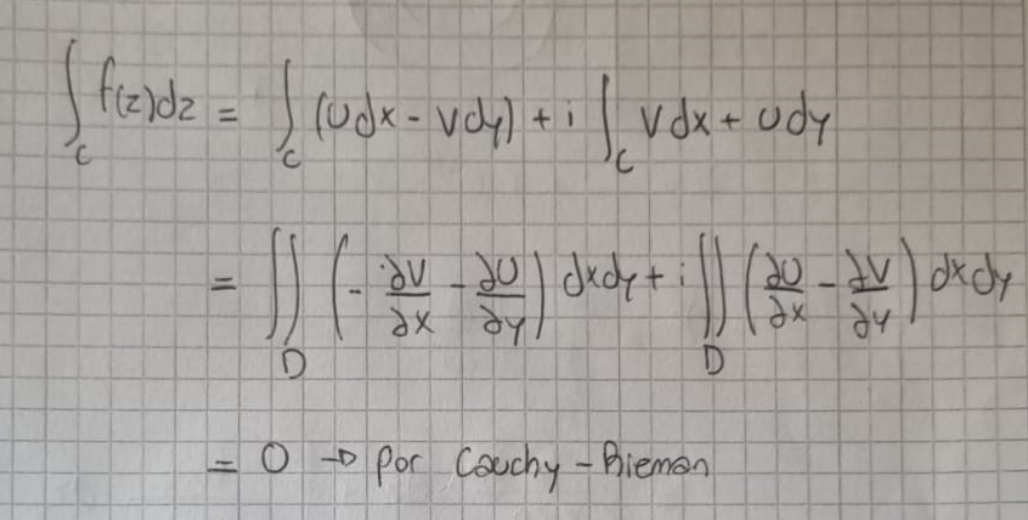
Integral de línea



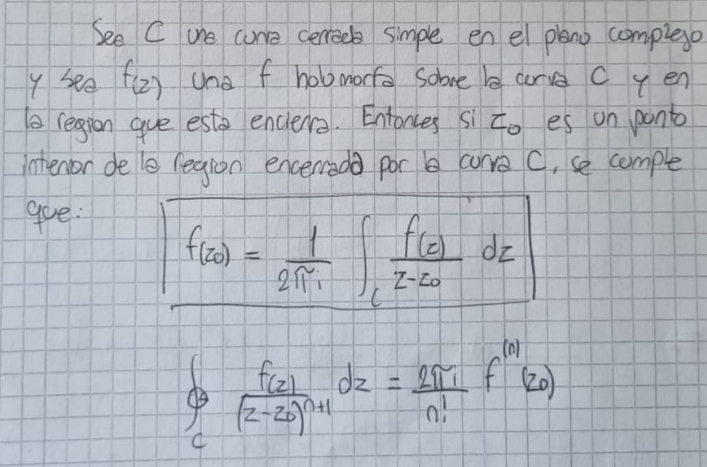


Teorema de Cauchy-Goursat

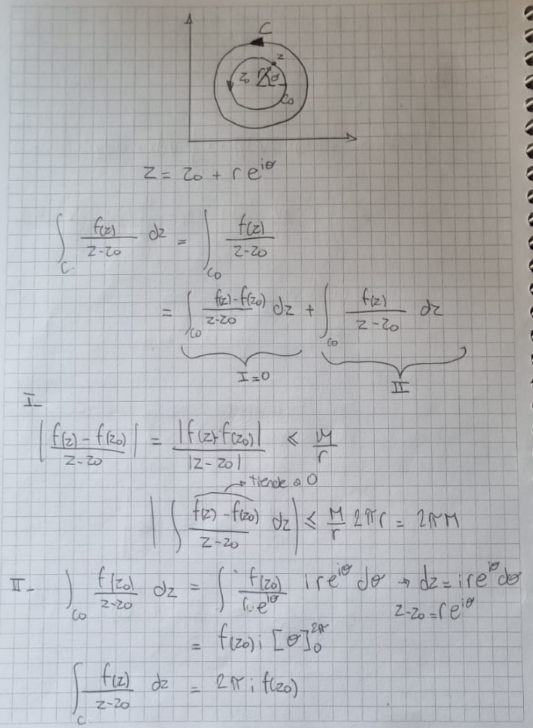




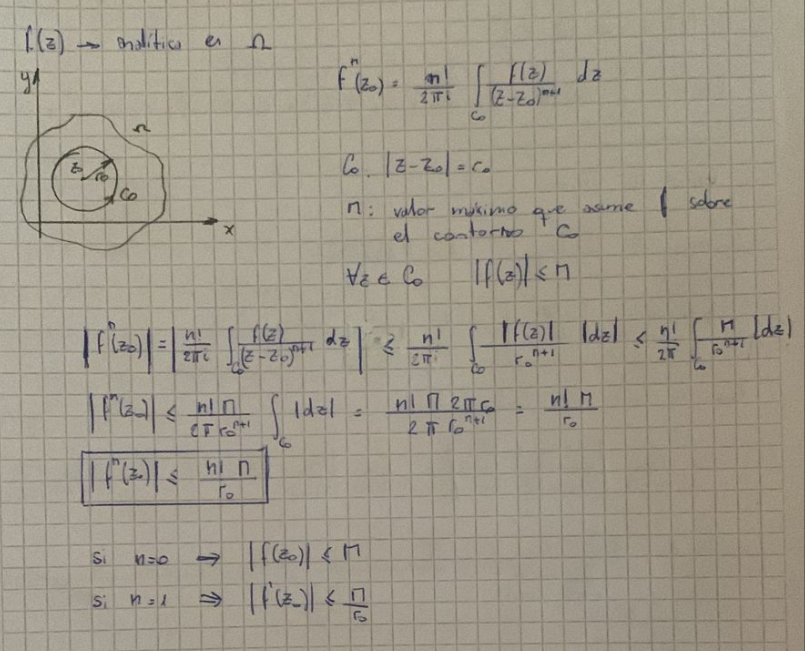
Formula Integral de Cauchy



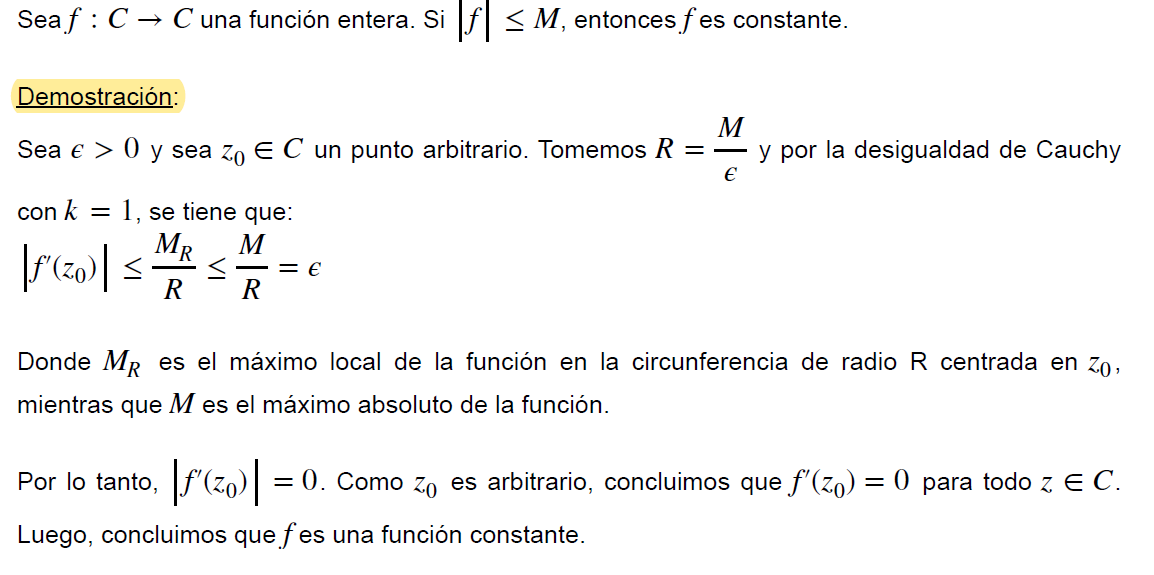
Demostración:



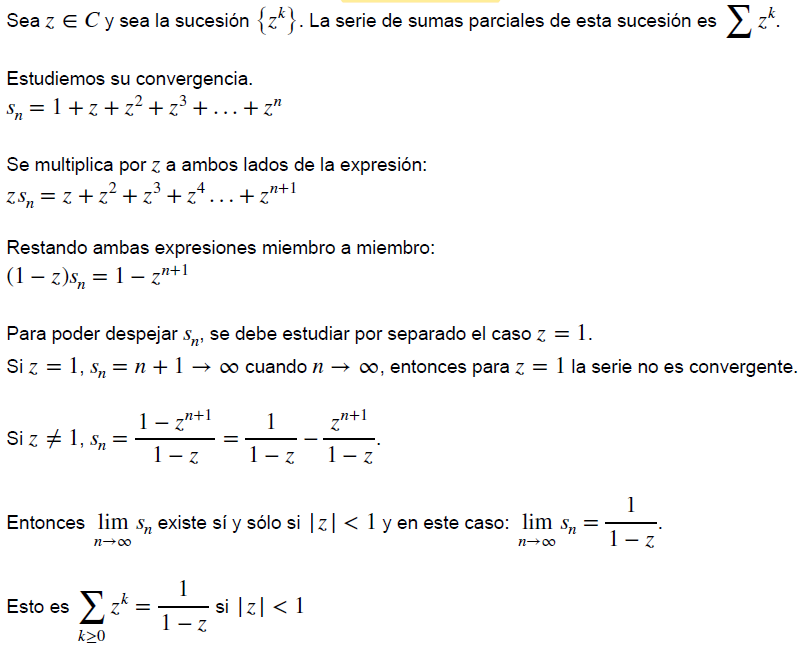
Desigualdad de Cauchy



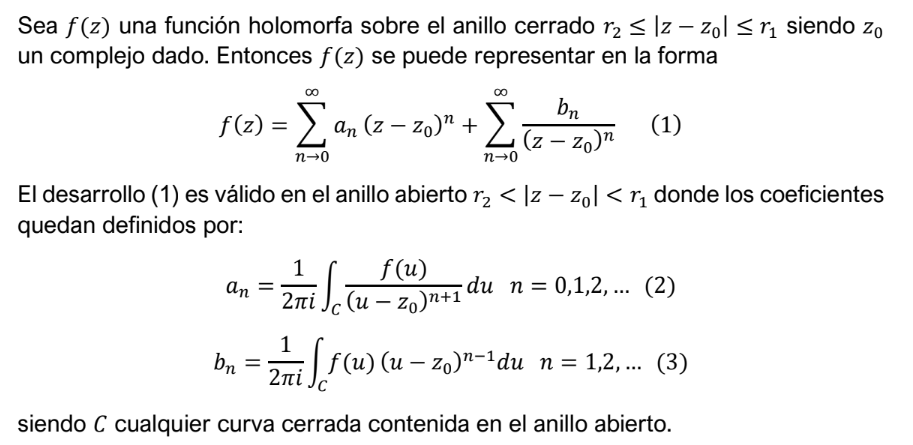
Teorema de Liouville



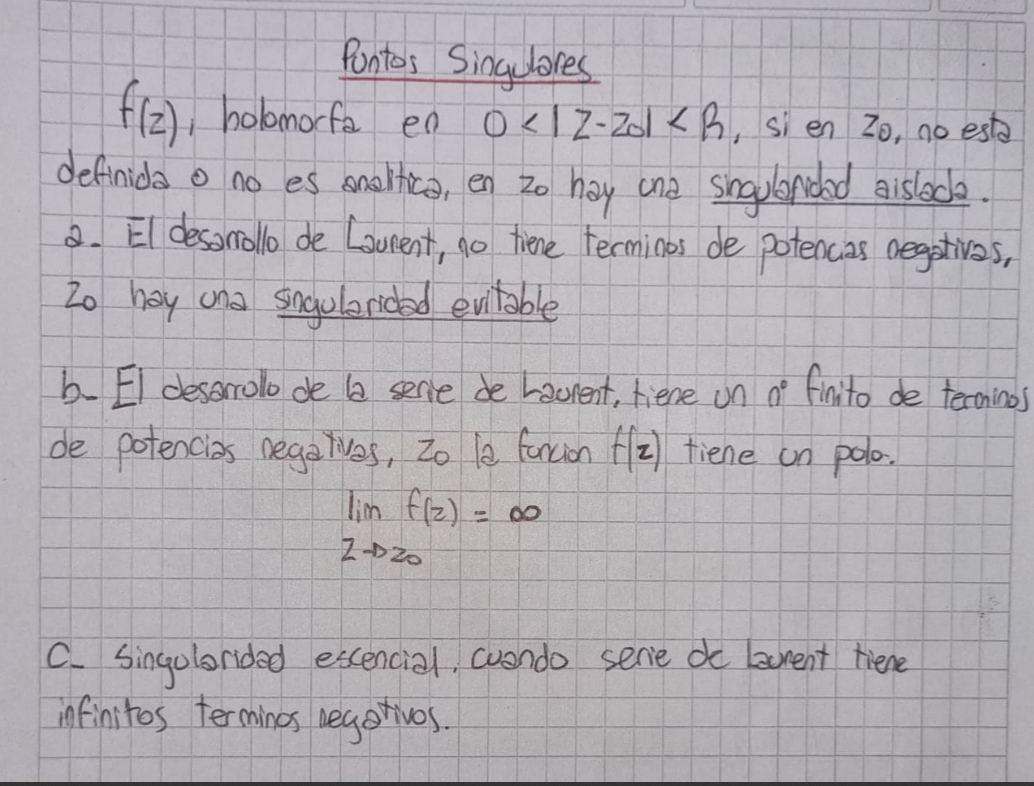
Serie Geométrica



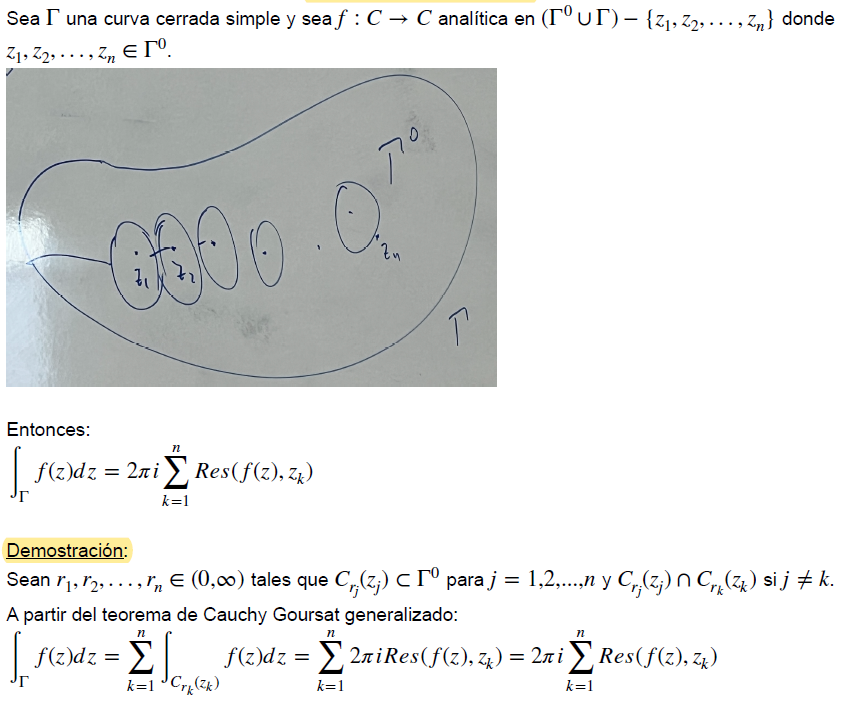
Serie de Laurent



Clasificación de Singularidades

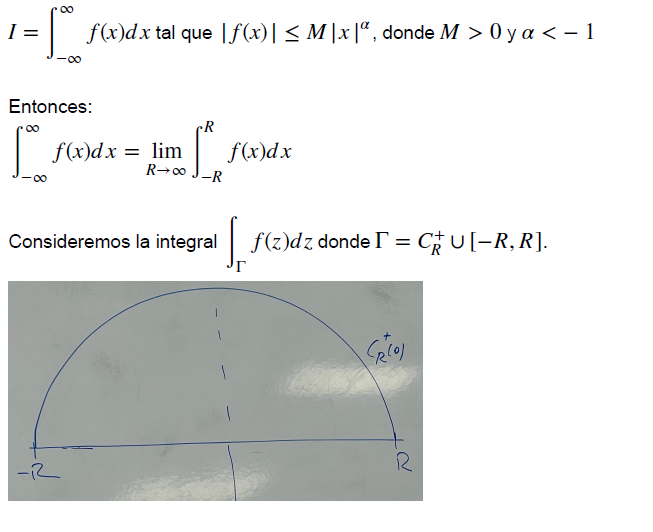


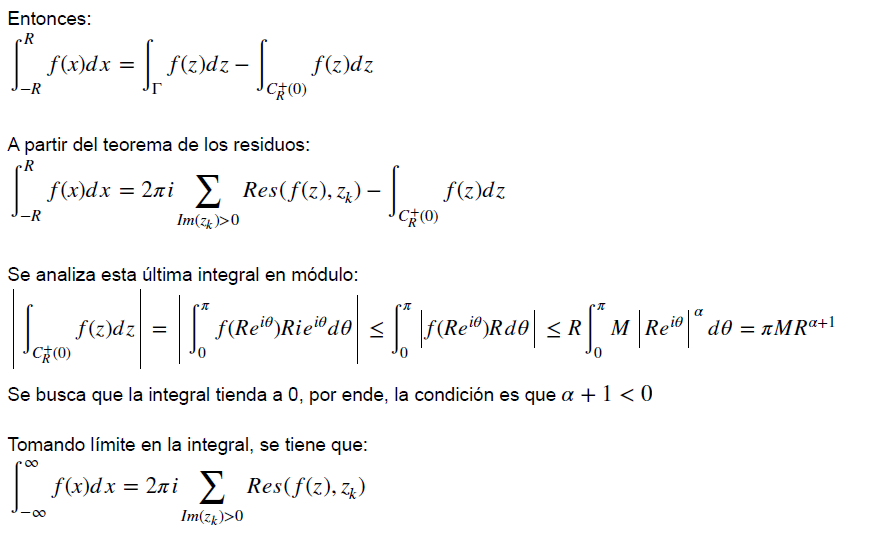
Teorema de los Residuos



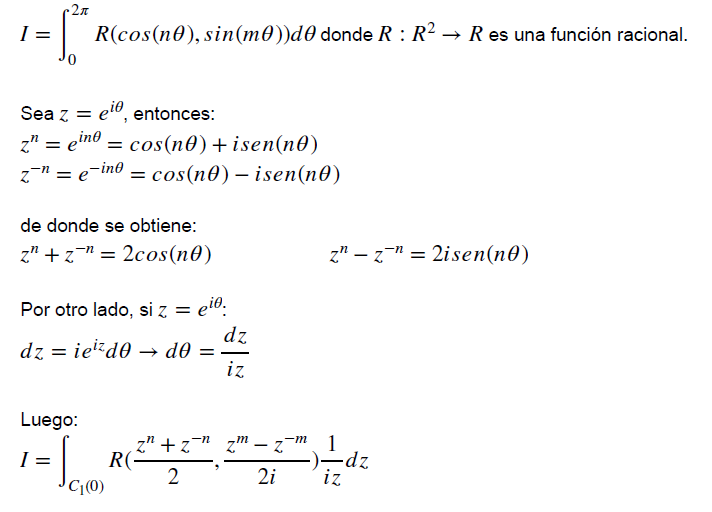
Resolución de Integrales Reales mediante Residuos

* Caso 1:

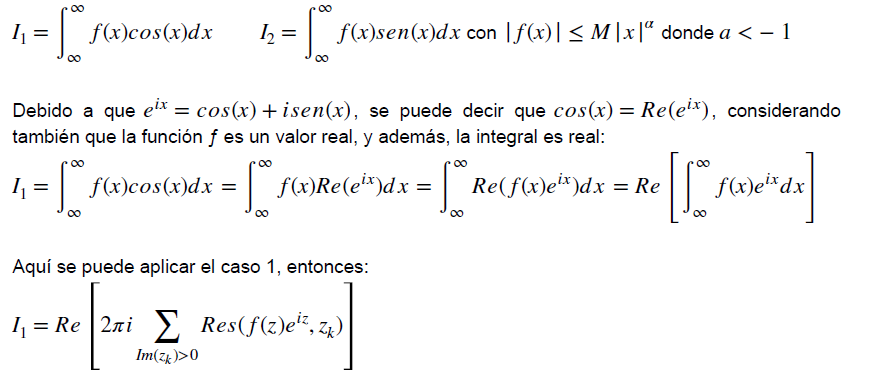




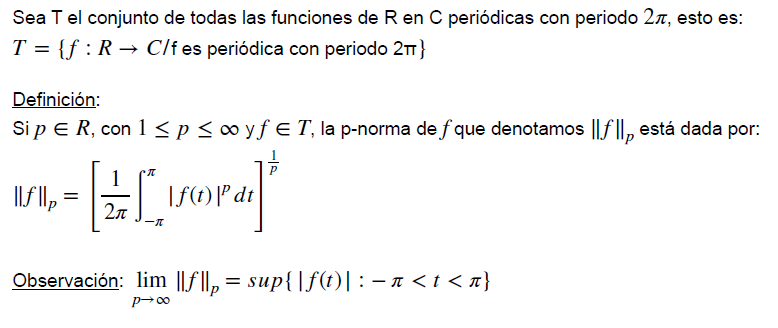
* Caso 2:



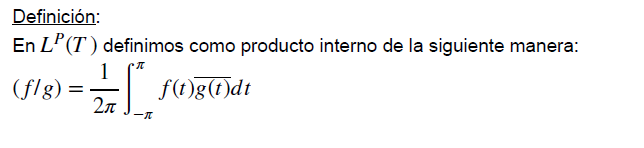
* Caso 3:

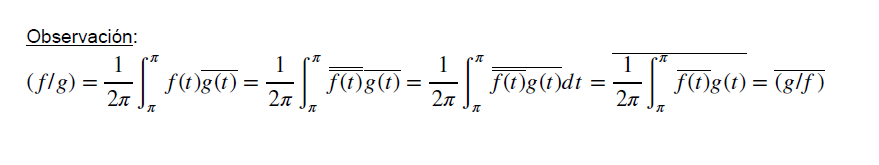


P-Norma de f

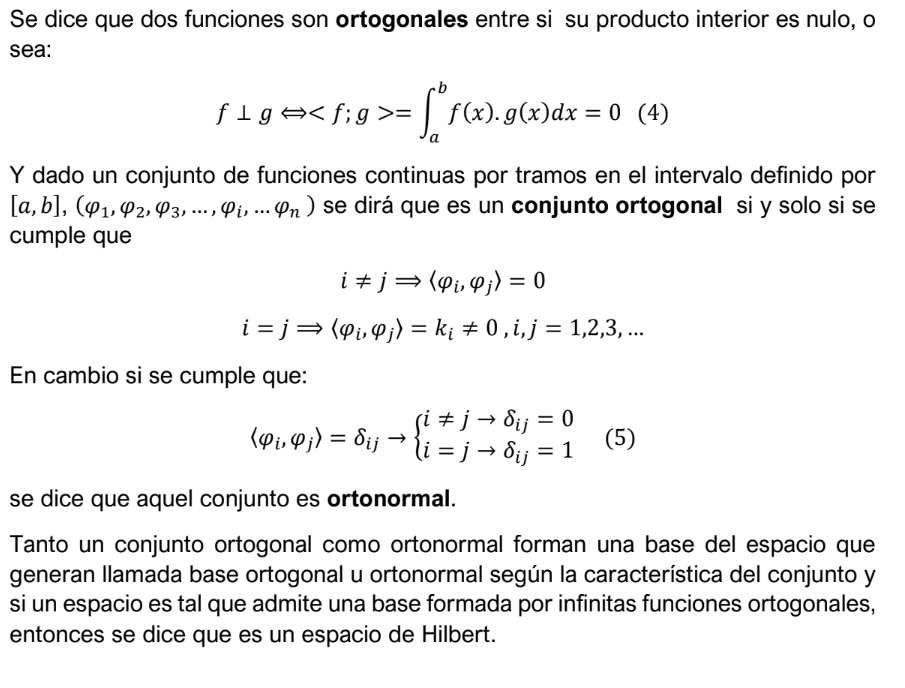


Producto Interno

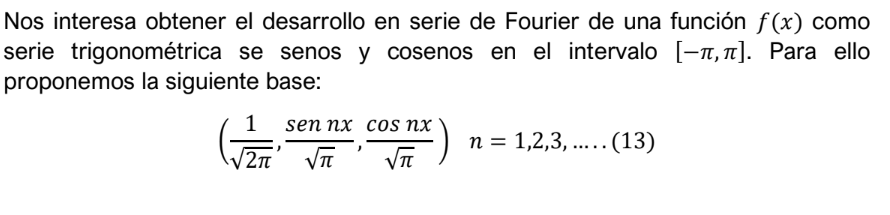


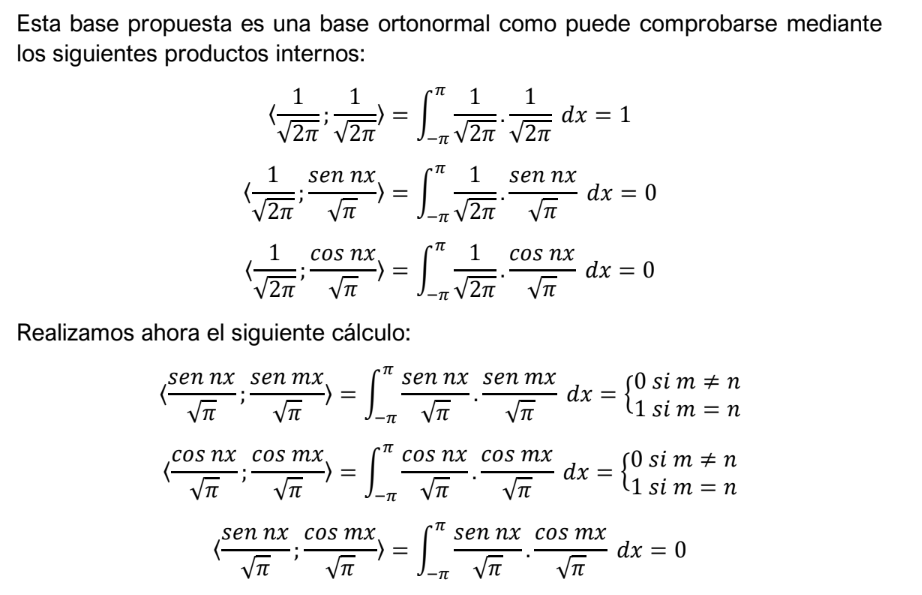


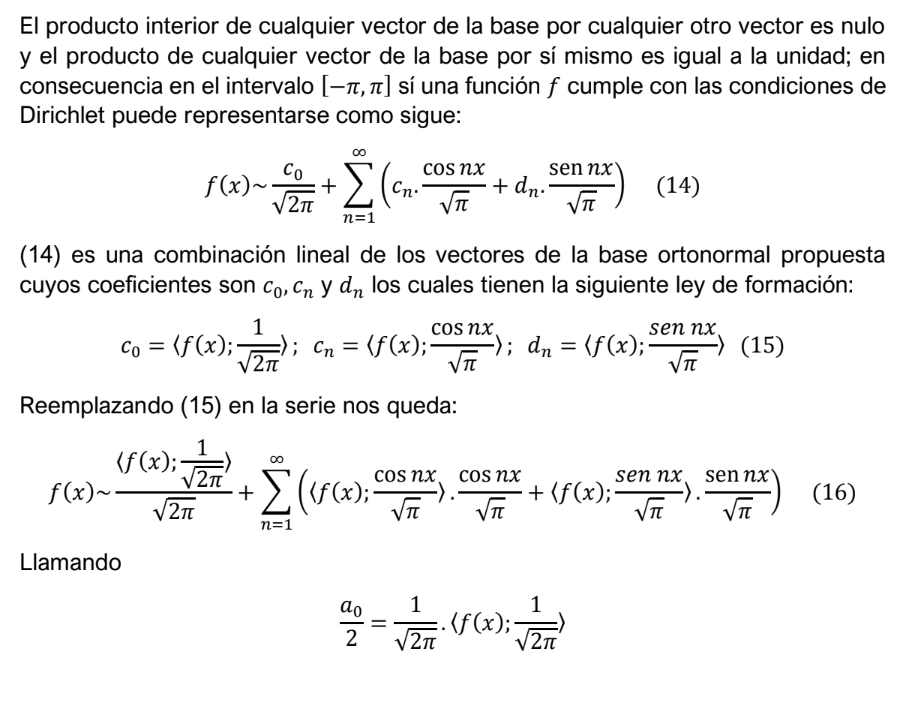
Ortogonalidad-Ortonormalidad



Serie de Fourier

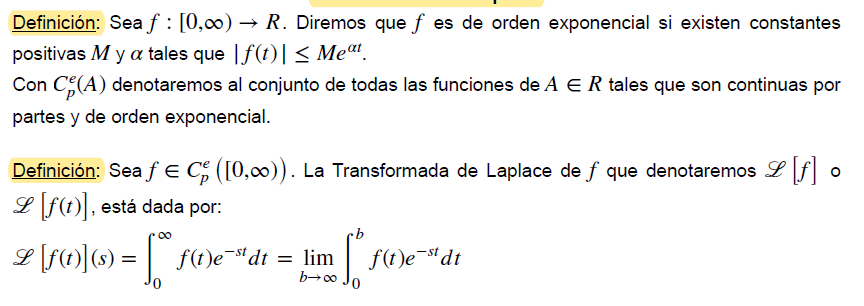


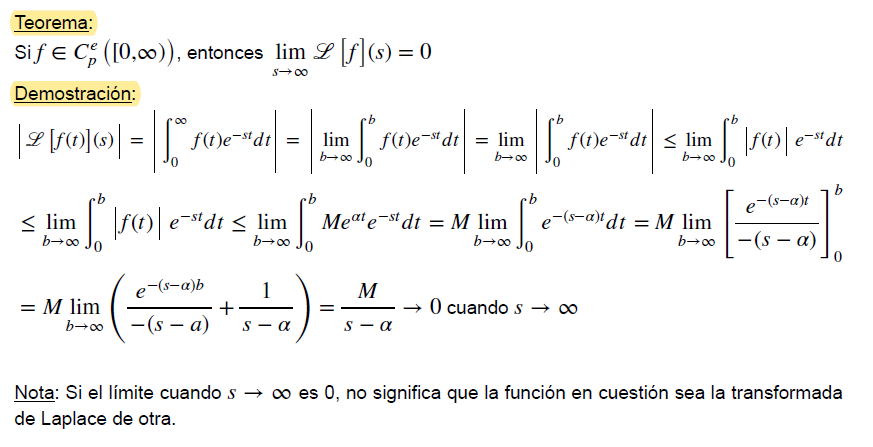


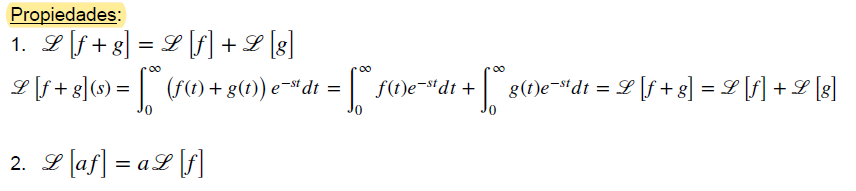




Transformada de Laplace







Convolución de Funciones

