

Ιούλιος 2011

Θέμα 2ο

B) $f(z) = 4z - 6\bar{z} + 7$

$$z = x + iy, \bar{z} = x - iy$$

$$\Rightarrow f(x, y) = 4x + 4yi - 6x + 6yi + 7 = 0$$

$$\Rightarrow f(x, y) = (-2x + 7) + i(10y)$$

$$u(x, y) = -2x + 7, v(x, y) = 10y$$

$$\frac{\partial u}{\partial x} = -2 \quad \frac{\partial u}{\partial y} = 0 \quad \frac{\partial v}{\partial x} = 0 \quad \frac{\partial v}{\partial y} = 10$$

Δεν ισχύουν οι εξισώσεις Cauchy-Riemann
άρα η $f(z)$ δεν είναι nowhere differentiable