

Section 13 Homework Problems

(13.A) Suppose $f(z) = \frac{z}{z+4}$. If $f(x + iy) = u(x, y) + iv(x, y)$, find u and v .

(13.3) Sketch the region onto which the sector $r \leq 1$, $0 \leq \theta \leq \frac{\pi}{4}$ is mapped by the following functions:

(a) z^2

(b) z^3

(c) z^4