

NAME:

Worksheet Week III

- (a) Sketch the families of level curves of the component functions u and v when $f(z) = \text{Log}(z)$.

- (b) Note that they are orthogonal. Is this a coincidence?

(c) Show that $\text{Log}(i^3) \neq 3\text{Log}(i)$.

(d) Solve for z :

$$\log(z) = i\pi/2.$$

(e) Do the same as in (a) for the function $f(z) = \sqrt{z}$ (where $\sqrt{}$ denotes the principal square root).