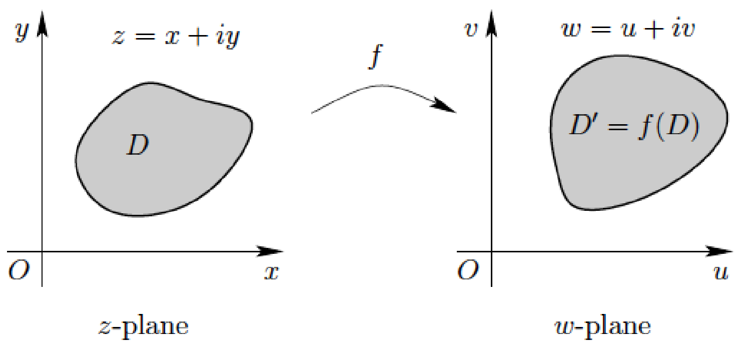
As we are familiar that high school students compute areas of circles, rectangles, squares, etc. using basic formulas. Undergraduate students deal with several definite integrals which are nothing but, geometrically, computing areas under given curves in one dimension, whereas, in the two dimension, students compute areas of given regions using ideas from multivariable calculus. Here we focus on computing areas of bounded regions which are nothing but image domains of subdisks of the unit disk under certain type of analytic functions. The approach that we consider is the following.



$$\text{Area}(D') = \iint_{D'} dudv = \iint_D \left|\frac{\partial(u,v)}{\partial(x,y)}\right| dxdy = \iint_D |f'(z)|^2\, dxdy$$

For an analytic function $f(z) = \sum_{n=0}^{\infty} a_n z^n$ in the the unit disk $|z| < 1$, our main objective in this research is to take functions of type $F_f(z) = z/f(z) = 1 + \sum_{n=1}^{\infty} b_n z^n$ and use the classical formula for area of $F_f(\mathbb{D}_r)$, studied in complex analysis, given by

$$\Delta(r, F_f) = \iint_{\mathbb{D}_r} |F_f'(z)|^2 dxdy = \pi \sum_{n=1}^{\infty} n|b_n|^2 r^{2n}, \quad z = x + iy,$$

where $\mathbb{D}_r := \{z : |z| < r,\, 0 < r \leq 1\}$. In general, though image domains are sometimes unbounded trivially with infinite areas, surprisingly, it is proved in the literature that areas for functions of type z/f are always bounded. Interested functions which we take into account of our investigation are the members from the family of starlike functions, convex functions, their generalizations, and univalent functions in the unit disk with quasiconformal extension to the whole complex plane.