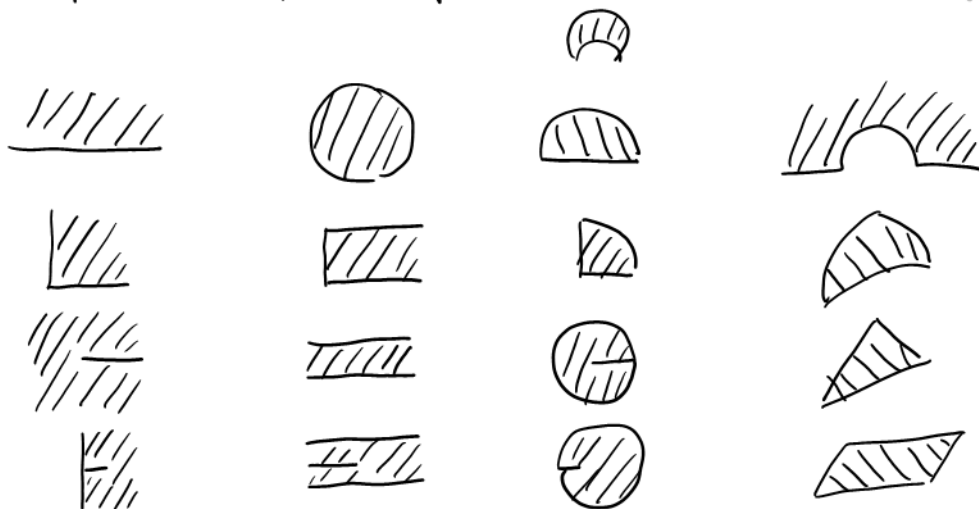


Modular form

0. small topics in complex analysis (prepared for Yilong Zhang)



There are more examples in Ahlfors' book or Jihuai Shi's book, but I think it's enough for one-time show.

<https://math.stackexchange.com/questions/585182/why-is-the-riemann-mapping-theorem-important>

with sphere packing: <https://scholarworks.calstate.edu/downloads/rn3o1358k>

By 2.2.1, every simply connected proper open subset of \mathbb{C} is not biholomorphic to \mathbb{C} .

Liouville's theorem: every bounded entire function must be constant.

Cor1. For every entire function f , if $\operatorname{Re} f$ is bounded, then f is constant.

Cor2. For every entire function f , if $f^{-1}([0, \infty))$ is empty, then f is constant.

Cor3. For every entire function f , if f is injective, then f is surjective.