$$\rho_{\mathbb{D}}(z) = \frac{1}{1-|z|^2}$$

$$\rho_{\mathbb{H}}(z) = \frac{1}{2\operatorname{Im}(z)}$$

$$a(z) = i\frac{1+z}{1-z}$$

$$\lambda \to \infty$$

$$b(z) = \log(-iz)$$

$$\rho_S(z) = \frac{\pi}{2\lambda \sin(\frac{\pi}{\lambda}\operatorname{Im}(z))}$$

$$c(z) = (z + i\frac{\pi}{2})\frac{\lambda}{\pi}$$

$$\rho_L(z) = \frac{1}{2\cos\operatorname{Im}(z)}$$

$$i\lambda$$

$$i\frac{\pi}{2}$$

$$-i\frac{\pi}{2}$$

$$d(z) = e^{iz}$$

$$\rho_{A(0,1,\infty)}(z) = \frac{1}{2|z|\log|z|}$$

$$\lambda \to \infty$$

$$1 \qquad e^\lambda$$

$$z \mapsto \frac{1}{z}$$

$$\rho_{A(0,1,e^\lambda)}(z) = \frac{\pi}{2\lambda|z|\sin(\frac{\pi}{\lambda}\log|z|)}$$
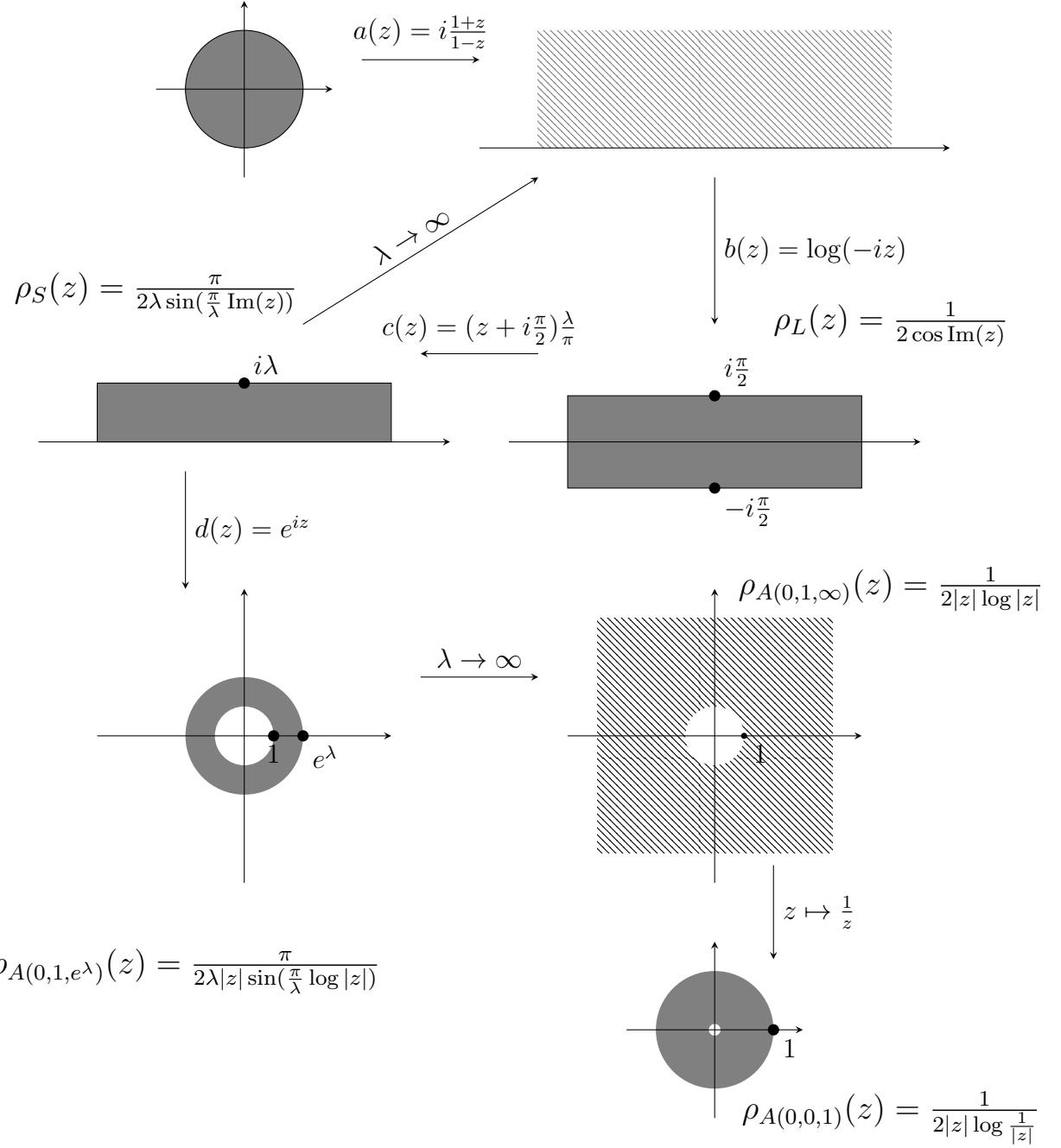
$$1$$

$$\rho_{A(0,0,1)}(z) = \frac{1}{2|z|\log\frac{1}{|z|}}$$

FIGURE 1. Hyperbolic densities of various domains.