

FIGURE 1. This illustrates the map $z \rightarrow z^2$ or $(x, y) \rightarrow (x^2 - y^2, 2xy)$. The top left shows a grid in the square $[0, 1]^2$. The top right shows the image under squaring map. The two pictures on the bottom show the images under z^3 and $z^{1/2}$. These are all conformal maps of the square, but are not conformal at the origin (which is a boundary point).

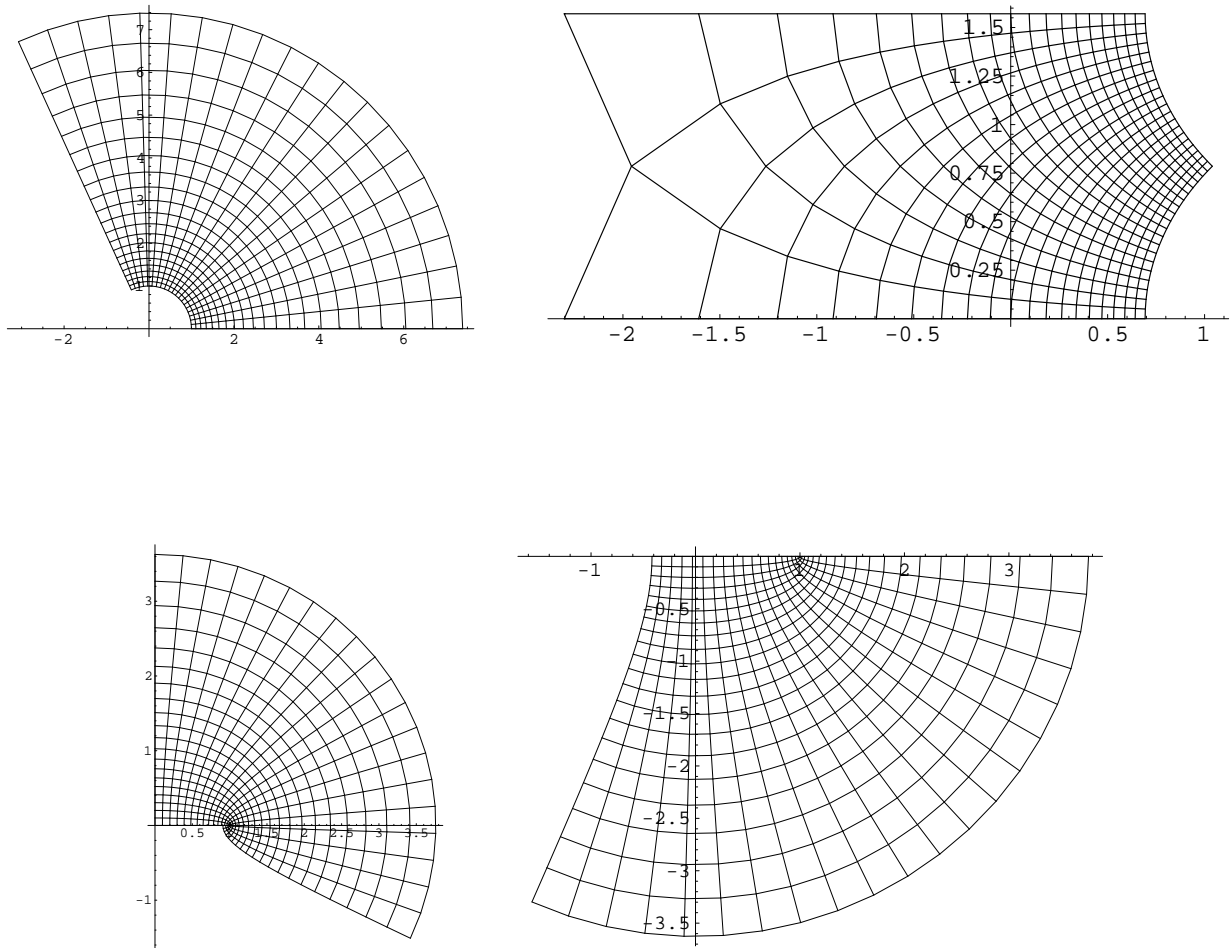


FIGURE 2. This illustrates more images of a grid on the square $[0, 1]^2$ under e^z , $\log(z)$, $\sin(z)$, $\cos(z)$. Under the logarithm the origin maps to infinity. This point is omitted from the picture

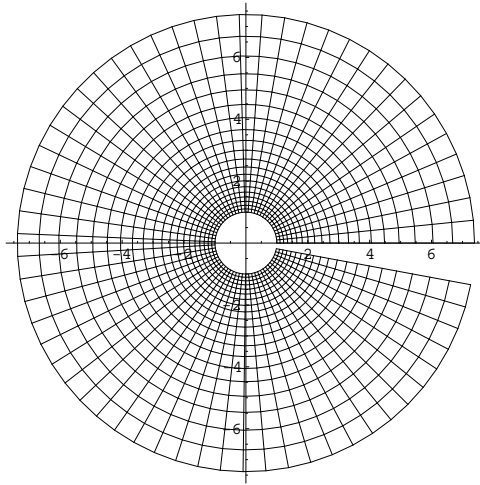
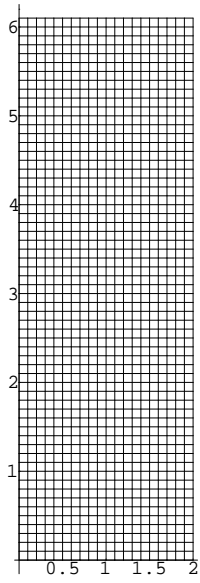


FIGURE 3. This illustrates the exponential map. The line at height 2π will be mapped into the positive real axis. The top edge of the grid is just below this, so the image stops just before it reaches the axis.

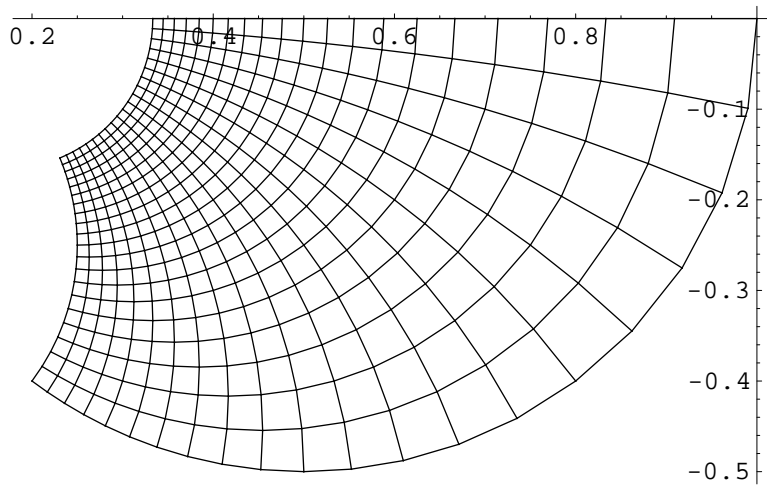
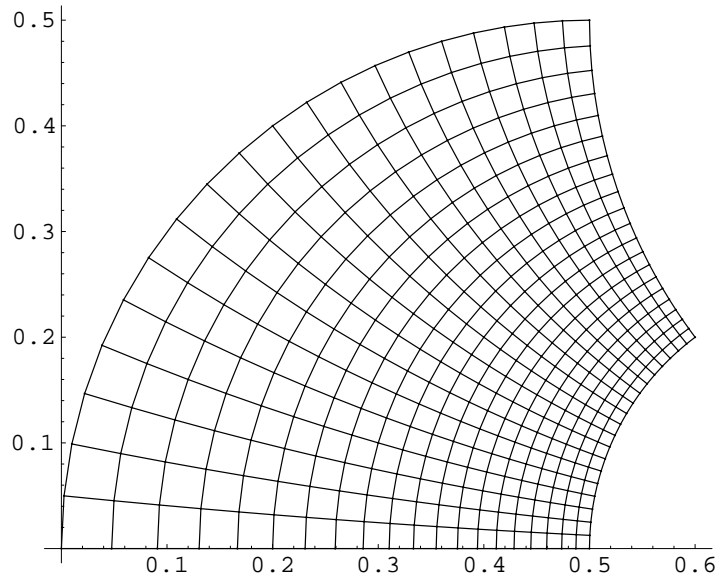


FIGURE 4. The top picture illustrates the image of the square grid under $g(z) = z/(z + 2)$. The bottom shows the same grid under $g(z) = 1/(1 + z)$.