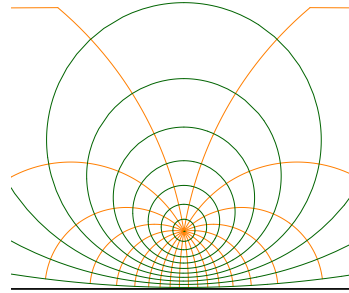
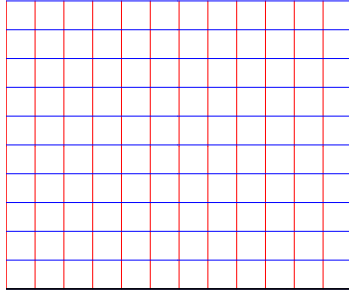
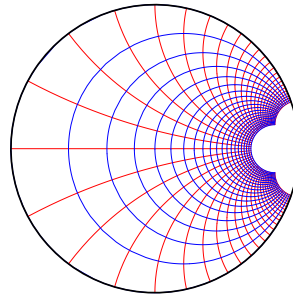
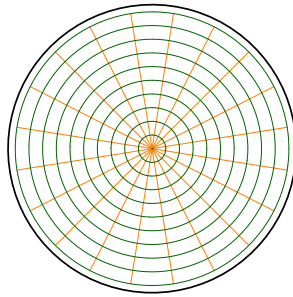


SOME CONFORMAL TRANSFORMS

We consider the region in the t plane where $\text{Im}(t) \geq 0$:

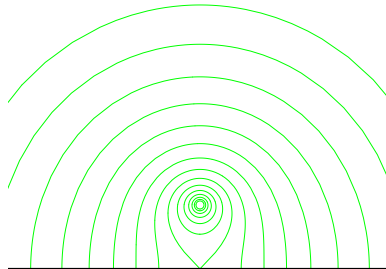


and the region in w plane where $|w| \leq 1$:

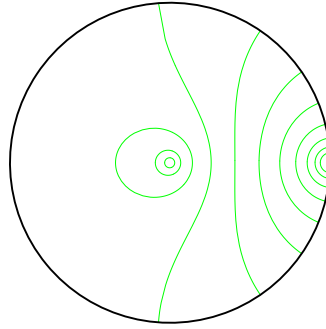


These two regions correspond by the formulae $t = j(1 + w)/(1 - w)$ and $w = (t - j)/(t + j)$. This correspondence is illustrated by the curves in the pictures above.

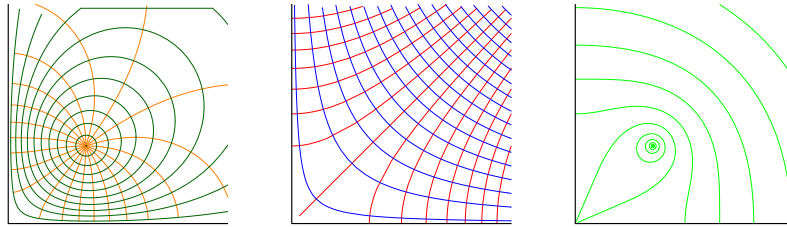
The next picture shows the flux lines created by a line current flowing in to the page at the point $t = j$, assuming that the real axis is magnetically impermeable:



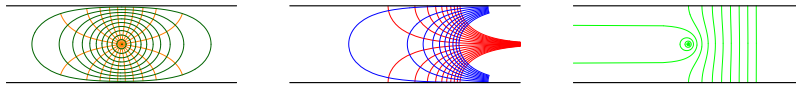
This can be transformed by the rule $w = (t - j)/(t + j)$ to get the following pattern of flux lines in the unit disc:



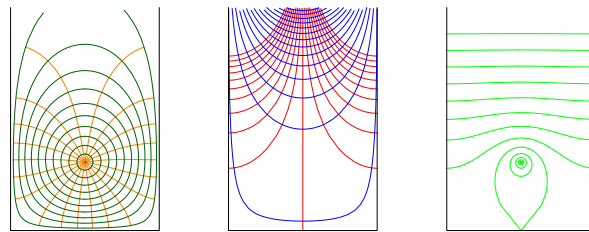
We can convert the upper half plane to a quarter plane by the rule $z = t^{1/2}$:



We can convert it to an infinite strip by the rule $z = \log(t)$:



Alternatively, we can convert to a strip that is only infinite in one direction, by the rule $z = 2 \arcsin(2t)/\pi$:



Finally, here are two Schwartz-Christoffel transformations:

