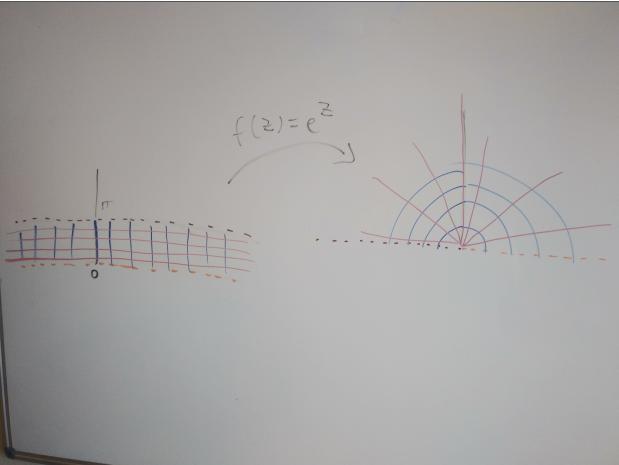
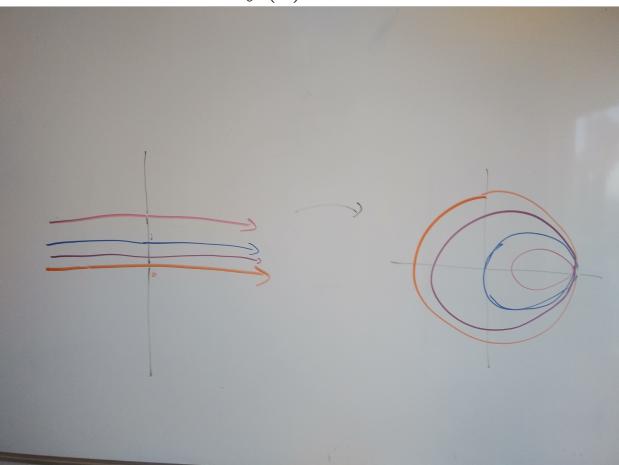
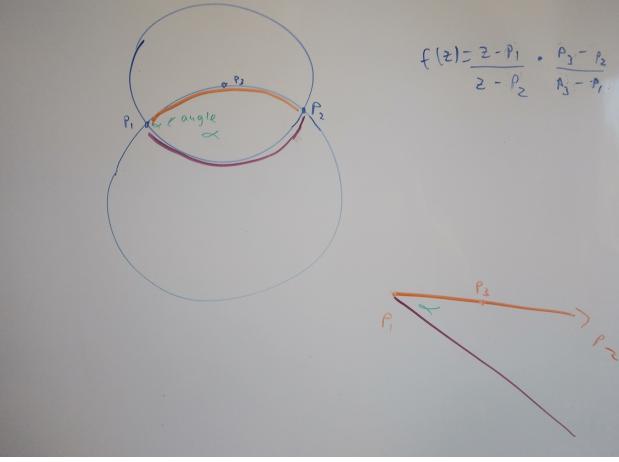


Mapping	Uses
$f(z) = z + b$	Translate by b
$f(z) = Rz, R > 0$	Scale by a factor of R
$f(z) = e^{i\theta}z, \theta$ real	Clockwise rotation by angle θ
$f(z) = z^a$	Maps the infinite sector $\{z: 0 < \arg(z) < \alpha\}$ to the infinite sector $\{z: 0 < \arg(z) < a\alpha\}$
	Maps the infinite strip $\{z: 0 < \text{Im}(z) < \pi\}$ to the upper half plane
	Maps the upper half plane to the unit disk
The Cayley transform: $f(z) = \frac{z-i}{z+i}$	

Mapping	Uses
<p>Fractional Linear transforms: $f(z) = \frac{az+b}{cz+d}$</p> <p>Example with lunar domain:</p> 	<ul style="list-style-type: none"> Maps circles&lines to circles&lines Maps lunar domains to sectors Bijective on $\mathbb{C} \cup \{\infty\}$ uniquely determined by 3 points: the LFT
 $f(z) = z + 1/z$ $f(z) = \lambda \frac{z-a}{1-\bar{a}z}, \quad a < 1, \quad \lambda = 1$	<p>Maps unit semicircle in upper half plane to the lower half plane</p> <p><i>Every conformal self-map of the unit disk is of this form</i></p>