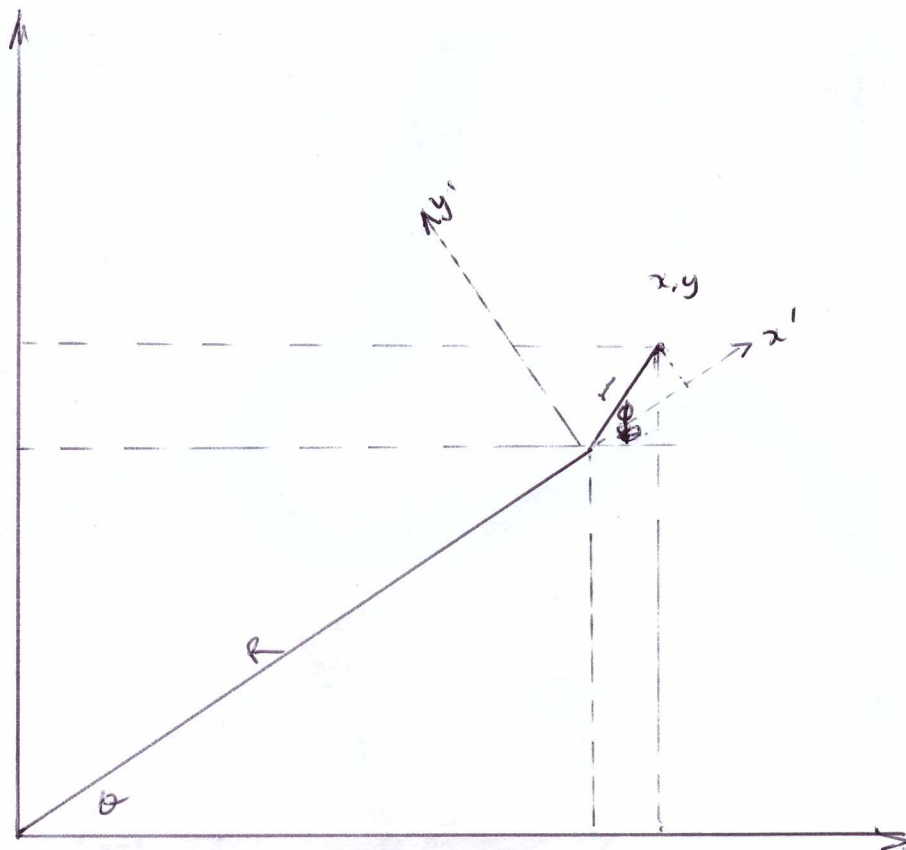


TRANSFORMATIONS



$$x = R \cos \theta + r (\cos \theta + \phi)$$

$$y = R \sin \theta + r (\sin \theta + \phi)$$

$$\rightarrow x' = -R + x \cos \theta + y \sin \theta$$

$$y' = -x \sin \theta + y \cos \theta$$

$$x = R \cos \theta + x' \cos \theta - y' \sin \theta$$

$$y = R \sin \theta + x' \sin \theta + y' \cos \theta$$

$$\frac{\partial x}{\partial x'} = \cos \theta$$

$$\frac{\partial x}{\partial y'} = -\sin \theta$$

$$\frac{\partial y}{\partial x'} = \sin \theta$$

$$\frac{\partial y}{\partial y'} = \cos \theta$$

$$\frac{\partial x'}{\partial x} = \cos \theta$$

$$\frac{\partial x'}{\partial y} = \sin \theta$$

$$\frac{\partial y'}{\partial x} = -\sin \theta$$

$$\frac{\partial y'}{\partial y} = \cos \theta$$