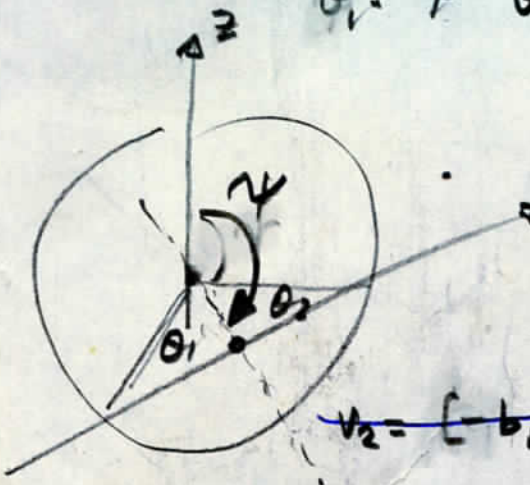
Intersection of a circular arc with a plane.



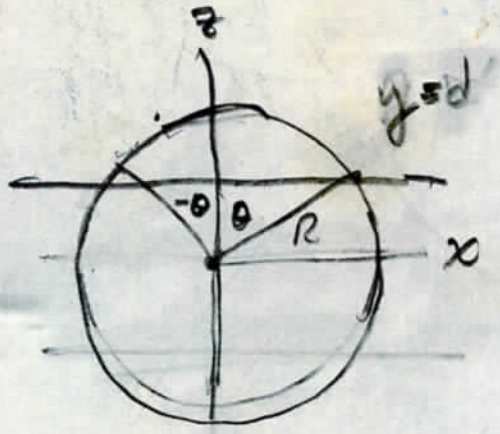
$\theta_1 = \chi \pm \theta'$

$v_1 = [a,b]^T / (a^2+b^2)^{1/2}$

$ax + by + c = 0$

~~$v_2 = [-b,a]^T / (a^2+b^2)^{1/2} = [\sin\chi, \cos\chi]^T$~~

$-bx + ay = 0$



$y = R\cos\theta$

$x = R\sin\theta$

$R\cos\theta = d$

$\theta_1 = \cos^{-1}\left(\frac{d}{R}\right) \quad (\theta - q_0)$

$d = R$

$\theta_2 = -\theta_1$

$$\begin{pmatrix} a & b \\ -b & a \end{pmatrix}\begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} -c \\ 0 \end{pmatrix}$$

$$\frac{1}{a^2+b^2}\begin{pmatrix} a & -b \\ b & a \end{pmatrix}\begin{pmatrix} -c \\ 0 \end{pmatrix} = \begin{pmatrix} x \\ y \end{pmatrix}$$

$$\boxed{\frac{-c}{a^2+b^2}\begin{pmatrix} a \\ b \end{pmatrix} = \begin{pmatrix} x \\ y \end{pmatrix}}$$

$(-b)(-ac) + a(-bc)$

$abc - abc = 0$ ←

$-a^2c - b^2c = -c$ ←

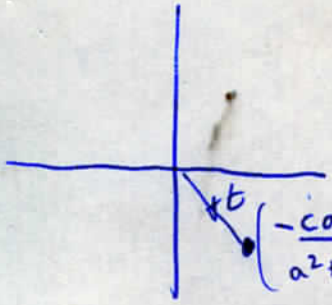
a^2+b^2

$d^2 = x^2 + y^2$

$= \frac{c^2(a^2+b^2)}{(a^2+b^2)^2}$

$= c^2/(a^2+b^2)$

$d = |c|/(a^2+b^2)^{1/2}$



~~$\begin{pmatrix} x' \\ y' \end{pmatrix} = \begin{pmatrix} \cos\theta & \sin\theta \end{pmatrix}$~~