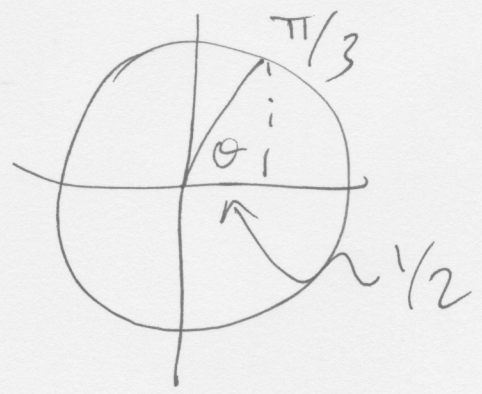
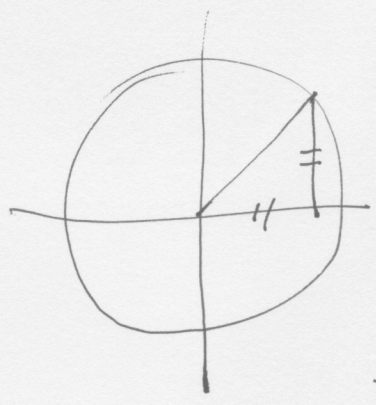


2a
$$\begin{bmatrix} 1/2 & -\sqrt{3}/2 \\ \sqrt{3}/2 & 1/2 \end{bmatrix} = \begin{bmatrix} \cos\theta & -\sin\theta \\ \sin\theta & \cos\theta \end{bmatrix}$$



$$\theta = \frac{\pi}{3}$$

b
$$\begin{bmatrix} \sqrt{2}/2 & -\sqrt{2}/2 \\ \sqrt{2}/2 & \sqrt{2}/2 \end{bmatrix}$$



$$\theta = \pi/4$$

$K = MN$ faz rotação de $\frac{\pi}{4} + \frac{\pi}{3} = \frac{7\pi}{12}$

c
$$L = \begin{bmatrix} a & b \\ c & d \end{bmatrix} \quad \begin{bmatrix} a & b \\ c & d \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} -x \\ y \end{bmatrix}$$

$$L = \begin{bmatrix} -1 & 0 \\ 0 & 1 \end{bmatrix}$$

d
$$P = LM = \begin{bmatrix} -1 & 0 \\ 0 & 1 \end{bmatrix} \begin{bmatrix} 1/2 & -\sqrt{3}/2 \\ \sqrt{3}/2 & 1/2 \end{bmatrix}$$

$$= \begin{bmatrix} -1/2 & \sqrt{3}/2 \\ \sqrt{3}/2 & 1/2 \end{bmatrix}$$
 NÃO é reflexão pois não é $\begin{bmatrix} c & -s \\ s & c \end{bmatrix} !!$