

1. Let ℓ be the line $x = 2$.
 - a) Compute $\sigma_\ell \tau \begin{bmatrix} -2 \\ 2\sqrt{3} \end{bmatrix}$ explicitly.
 - b) Compute $\tau \begin{bmatrix} 2 \\ -\frac{2}{\sqrt{3}} \end{bmatrix} \sigma_\ell$ explicitly.
2. Let ℓ be the line $y = x + 2$.
 - a) Compute $\sigma_\ell \rho_{0, \frac{\pi}{2}}$ explicitly.
 - b) Compute $\rho_{0, \frac{3\pi}{2}} \sigma_\ell$ explicitly.