Math 331 **Exam 1** **Spring '10**

1. Let ℓ be the line $y = -\frac{1}{\sqrt{3}}x + \frac{2}{\sqrt{3}}$. Compute $\rho_{0,\frac{\pi}{3}}\Omega_\ell$ explicitly.
2. Let ℓ be the line $y = -\frac{1}{\sqrt{3}}x + \frac{2}{\sqrt{3}}$. Write $(0,1)$ as the sum of a vector parallel to ℓ and a vector perpendicular to ℓ,
3. Compute $\rho_{0,\frac{\pi}{2}}\rho_{(2,2),\frac{\pi}{2}}$ explicitly.
4. Compute $\rho_{(2,0),\frac{\pi}{3}}\rho_{0,-\frac{\pi}{3}}$ explicitly.
5. Compute $\tau_{(2,-2)}\rho_{0,\frac{\pi}{2}}$ explicitly.