

## Notes for HW 7

Problem 7.12: You will find useful the integral

$$\int_0^{\infty} \frac{x^k}{(x^2 + b^2)^\ell} dx = \frac{1}{2b^{2\ell-k-1}} \frac{\Gamma\left(\frac{k+1}{2}\right) \Gamma\left(\frac{2\ell-k-1}{2}\right)}{\Gamma(\ell)}$$