

**M417**

Fall 1996

hw10.tex due Nov 4, 1996

Find the residues of

1.  $f(z) = \frac{1}{1+z^2}$

2.  $f(z) = \tan(z)$

3.  $f(z) = \frac{z^{s-1}}{1+z^2}$ ,  $z = |z| \exp(i\theta)$ ,  $0 < \theta < 2\pi$

4.  $f(z) = \frac{1}{(z^2-1)^2}$