Problem 6

The denominator must never vanish. So we find where $1 - \tan x = 0$. This occurs when $1 = \tan x$, which is equivalent to $x = \pi/4 + k\pi$ where k is any integer. Also, the domain of the tan function is $(-\infty, \infty) \backslash \{\pi/2 + k\pi \, : \, k \in \mathbb{Z}\}$. So $\text{Dom}(f) = (-\infty, \infty) \backslash \{\pi/4 + k\pi, \pi/2 + k\pi \, : \, k \in \mathbb{Z}\}$.