## University of Colorado <br> Department of Mathematics <br> Problem of the Month <br> April 2009

Show that for every real number $x$ and for every natural number $n$ it is the case that

$$
\frac{x}{1+x^{2}}+\frac{x}{2^{2}+x^{2}}+\cdots+\frac{x}{n^{2}+x^{2}}<\frac{\pi}{2} .
$$

