

14. To be proved: $\lim_{x \rightarrow 2} \frac{x-2}{1+x^2} = 0$.
Proof: Let $\epsilon > 0$ be given. Then

$$\left| \frac{x-2}{1+x^2} - 0 \right| = \frac{|x-2|}{1+x^2} \leq |x-2| < \epsilon$$

provided $|x-2| < \delta = \epsilon$.