1. Find \( \lim_{x \to 0^+} (\csc x - \cot x + \cos x) \)

2. Find \( \lim_{x \to \infty} \left( \frac{x^2 + 2}{x + 1} \right)^{1/x} \)
3. A rectangular plot of farmland will be bounded on one side by a river and on the other three sides by a single-strand electric fence. With 1600 m of wire at your disposal, what is the largest area you can enclose, and what are its dimensions?

4. Newton’s method is used to estimate the $x$-coordinate of the point of intersection of the curves $y = \sqrt{x}$ and $y = 1 - x^2$. If we start with $x_0 = 1$, then find the value of $x_1$. 