TI-83 Instructions
Numerical Limits
Suppose that we want to evaluate the function

\[ f(x) = \frac{\sqrt{x + 1} - \sqrt{2}}{x - 1} \]

numerically as \( x \) approaches 1.

- We will evaluate it at values 0, 0.9, 0.99, 0.999, etc.
- Then we will evaluate it at values 2, 1.1, 1.01, 1.001, etc.
Numerical Limits

**TI-83 Numerical Limits**

- **Press** `Y=.`
- **Enter the function as** $Y_1$ (or $Y_2$, or $Y_3$, etc.).
  - Use the key $X, T, \theta, n$ to enter the variable $x$.
- **Press** 2nd QUIT.
- **Press** 2nd TBLSET.
- **For Indpnt** (independent variable $x$), select **Ask**.
- **For Depend** (dependent variable $y$), select **Auto**.
Numerical Limits

- Press `TABLE`.
- Enter in column $X$ the value $0$.
- Press `ENTER`. The value of $f(0)$ appears in column $Y_1$.
- Enter in column $X$ the value $0.9$.
- Press `ENTER`. The value of $f(0.9)$ appears in column $Y_1$.
- And so on, until the limit is apparent, or until it is clear that the limit does not exist.