Exercise 33

For the following exercises, consider the function $f(x) = (1+x)^{1/x}$.

What does the table of values in the preceding exercise indicate about the function $f(x) = (1+x)^{1/x}$?

Solution

The table of values indicates that the function approaches the value $2.718\ldots$ as $x \to 0$, though the function is undefined at $x = 0$. This is illustrated by a point of discontinuity at $x = 0$ in the graph of $f(x)$ versus x below.