

Worksheet

Consider the function $f(x) = x^x$.

You may use any place you want to write down your answers.

x	1.9	1.99	1.999	1.9999	2
$f(x)$					

Q: What is $\frac{f(x)-f(2)}{x-2}$ for each x in the table?

x	2	2.0001	2.001	2.01	2.1
$f(x)$					

Q: What is $\frac{f(x)-f(2)}{x-2}$ for each x in the table?

Q: What is your estimate for $\lim_{h \rightarrow 0} \frac{f(2+h)-f(2)}{h}$?