

Sin(x) function

- From domain of -2π to 2π , my approximations were fairly accurate with the library answer when I used a huge term for Pade approximations. I noticed that my approximates were off when i got to $-3\pi/2$ and $3\pi/2$ because the numbers were too high? To make it accurate, I had to add 2π when I got to $-3\pi/2$ and minus 2π when i got to $3\pi/2$. The inputs are still equivalent. This helped make the difference to 0.

Cos(x)

- From -2π to 2π , my approximations were accurate all the way until $-3\pi/2$. I added 2π to those input which made the difference of zero.

Tan(x)

My Pade Approximation for this was only off by .21 for $\pi/2 - 0.001$. I think this happened because it got way too close to $\pi/2$ which is DNE. I think I would need more terms in order to find the exact approximations. $\sin(x)/\cos(x)$.

e^x

- My e^x function difference increased as the numbers got bigger. The only way I could fix the huge difference was to keep adding smaller terms from the taylor series. I ended up adding taylor series for a very long time. I was still off by like 0.0000001 at some inputs. The reason could be that the factorial is too big? Or that I'm implementing too big of exponential. My results aren't far off and limiting decimal point only 8th term made difference to zero.