1. Compute $\lim_{x \to 0^+} (1 + \sin 3x)^{1/x}$.

2. Use the symbolic `fplot` command to plot $f(x) = e^{\sin x} \tan^{-1} (x/2) \ln (x^2 + 3x + 7)$ and its derivative in the window $-5 \leq x \leq 5$, $-5 \leq y \leq 5$. Include a legend and title.

3. Compute the integral $\int_{2}^{3} \frac{x^3}{x-1} \, dx$ exactly.
   Also give a decimal approximation.

4. Plot the parametric curve $x = e^{\cos t}$, $y = e^{\sin t}$, for $0 \leq t \leq 2\pi$. 