1. Carefully print MATHEMATICA input commands (one or two in number) for the evaluation of
\[ \lim_{x \to 0} \frac{e^{x^5} + e^{x^7} - 2 - x^5 - x^7}{x^{10}}. \]
(In particular, since palettes are not available, write \(x^n\) for \(x^5\) etc.)

2. For the function \(f(x)\) defined by
\[ f(x) = \frac{x^{17}e^x \sin x}{x^2 + 1}, \] for any real number \(x,
\]
(a) print a suitable MATHEMATICA Input statement whose evaluation defines this function for the MATHEMATICA kernel;

(b) carefully print a MATHEMATICA Input statement for the direct evaluation of
\[ \lim_{h \to 0} \frac{f(a + h) - f(a)}{h}; \]

(c) carefully print a MATHEMATICA Input statement whose evaluation yields the seventeenth derivative \(f^{(17)}(x)\) of \(f(x)\).

(End of Quiz)