Quiz 1
MA 123, Ivan Zaigralin

This quiz is closed-books and closed-notes. No calculators or cellphones are allowed. There are 5 problems, each worth 2 points.

Problem 1. Find the domain of $f(t) = \sqrt{3-t} - \sqrt{2+t}$.

Problem 2. Given that $f(x) = 1 - 2x$ and $g(x) = \cos(x)$, find $(f \circ g)(x)$ and $(f \circ f)(x)$.

Problem 3. Solve the equation for x: $e^{e^{x-1}} = 2$. Do not compute the decimal expression for the root(s), if any.

Problem 4. Plot the function $f(x) = \sin(\pi x) - 1$. Be sure to plot at least one full period and label the graph to indicate the period, the amplitude, and the phase.

Problem 5. Determine whether the function $f(x) = \dfrac{x^3 - x}{|x|}$ is even or odd. Sketch the graph of the function. State its domain. *Hint: rewrite the definition of $f(x)$ by cases.*