This is a diagnostic quiz, which does not contribute to your final score in any way. But this time I do expect you to solve some (in fact all) of them. Please write down your first and last names. Good Luck!

1. (5 mins)
   Let $g$ be a function from $\mathbb{R}$ to $\mathbb{R}$, with $g(0) = 0$.
   Please write down the $\varepsilon - \delta$ definition of $g$ is discontinuous at 0.

2. (5 mins) Let $f$ be the function from $\mathbb{R}$ to $\mathbb{R}$ defined by
   \[ f(x) = \sin(x). \]
   Please compute the integral
   \[ \int_{0}^{\pi} f(x) \, dx. \]