

Math 301-01 Quiz #5

Name:..... ID:.....

Exercise #1: For which values of a and b , if any, the functions $f(x) = ax + b$ and $g(x) = x^2$ are orthogonal on $[-1, 1]$?

Exercise #2: Find the Fourier series of

$$h(x) = \frac{x}{|x|}, x \in [-1, 0) \cup (0, 1]$$

and plot the graph of h and its Fourier series.