

MAT 2125 – Winter 2017

Quiz 3

Professor: Alistair Savage

March 22, 2017

QUESTION (4 pts). For which values of $a \in \mathbb{N}$ is the function $f: \mathbb{R} \rightarrow \mathbb{R}$ defined by

$$f(x) = \begin{cases} x^a \cos(x^{-1}) & x \neq 0, \\ 0 & x = 0. \end{cases}$$

differentiable at 0?