

NAME/SURNAME:..... STUDENT NO:.....
DEPARTMENT:..... DATE:....22.10.2024.....

MATH 105 — Section 04 — QUIZ # 2

Problem 1(10 points). Given $f(x) = \csc x$, find $\lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$ for any real number x .

Problem 2(10 points). Find $\lim_{x \rightarrow -3} (x - \llbracket x \rrbracket)$, if it exists.

Problem 3(10 points). Find $\lim_{x \rightarrow 0} \frac{x^2 \sin(x^2) + (\tan x) \sin(2x^3)}{\cos(2x) \tan^2(7x^2) + \sin^6 x}$.

Problem 4(10 points). If $\frac{3\pi}{2} - x^3 \leq f(x) \leq \frac{3\pi}{2} + x^3$, then find $\lim_{x \rightarrow 0} f(x)$.