

MATHS 101**SEMESTER 152, QUIZZ 1**

NAME:

ID:

Instruction: Write neatly and show all working clearly.

1. Evaluate the following limits, if it exists

a. $\lim_{x \rightarrow \frac{1}{4}} (x - \lceil 4x \rceil)$, $\lceil \cdot \rceil$ denotes the greatest integer function.

b. $\lim_{x \rightarrow 2} \left(\frac{x^2 + x - 6}{|x - 2|} \right)$

2a. Define $\lim_{x \rightarrow a} f(x) = L$, using $(\epsilon - \delta)$ 2b. Prove that $\lim_{x \rightarrow 0} (1 - 3x) = 1$ 3a. Find the vertical asymptotes of the function $y = \frac{x^2 + 6}{5x - 2x^2}$

3b. graph the function