Assignment 1

Semester: Fall 2022
Course Title: Differential Calculus and Co-ordinate Geometry
Course Code: MAT110

Total Marks: 20

You are asked to submit on Tuesday, **18 October 2022**

Find domain and range (1 & 2)

1. $f(x) = |x| + |x-1| + |x-2|$.

2. $f(x) = \sqrt{-2-x}$, also define domain and range.

3. Sketch: $f(x) = \begin{cases} x^2, & x \leq 1 \\ 3, & 1 < x \leq 2 \\ x, & x > 2 \end{cases}$.

4. $\lim_{x \to 0} \dfrac{\sqrt{x^2+1}-1}{\sqrt{x^2+16}-4}$.

5. $\lim_{x \to \infty} \sqrt{x^2+x+1} - \sqrt{x^2+1}$.

GOOD LUCK!!!