MATH 101
QUIZ 4

Name: **Serial No.** **section:**

1. Given $f(x) = \frac{2x+3}{3x-4}, \quad 2 \leq x \leq 3$

   a) Is the Mean value Theorem applicable to $f(x)$? why (You must give reasons)

   b) If your answer is yes to Part(a), then find all numbers c that satisfies the conclusion of the Mean value Theorem.

2. Find the value of the $\lim_{x \to 1} \left(\frac{x}{x-1} - \frac{1}{\ln x} \right)$, if it exsist

3. Find the inflection points (if exist) of the function $f(x) = xe^{1-2x}$.

4. Find the asymptotes of the graph of the function $f(x) = \dfrac{x^4 - x^3 - 2x^2}{x^3 + x^2 + x + 1}$.