Math 101-03 **Quiz#3** **Term: 173** **August 1, 2018**

1. Use of cell phones is NOT allowed.
2. Answers without supporting work will NOT be given credit.
3. You have **13 minutes** to complete this quiz.

Name:

Serial:

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1. Consider

$$f(x) = x^2 - x - \ln x$$

(a) Find the intervals of increase and decrease.

(b) Find the local maximum and minimum values, if any.

(c) Find the intervals of concavity and the inflection points, if any.

2. Prove, **using Rolle's Theorem**, that if the position function of a particle is

$$s = f(t) = 3t^2 - 12t + 5$$

then the particle **stops** at some time between $t = 1$ and $t = 3$.

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The End.