

Name:

ID #:

Section: 4

Serial #:

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1. Find the value(s) that satisfy the conclusion of the Mean Value Theorem for  $f(x) = \frac{x}{x+2}$  on  $[1, 4]$ .

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2. Find all the inflection points of  $(x) = 2 \cos x + \sin^2 x$ .

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3. Evaluate  $\lim_{x \rightarrow 0} \left( \frac{1}{x} - \frac{1}{e^x - 1} \right)$ .