

Math 21A

Kouba

Mean Value Theorem-- An Application

Let  $s(t)$  be the total miles you have driven after  $t$  hours on Interstate 80 from Davis to San Francisco. Assume also that  $s(1/3) = 10$  miles and  $s(1.2) = 82$  miles. At a check-point along the way you admit these facts to a highway patrol officer, who, while a student at UC Davis, took Math 21A. The officer makes a few quick calculations, smiles, mumbles something about the Mean Value Theorem, then politely prepares to write you a traffic ticket. Explain why.