

6. (12 points) This problem concerns the Mean Value Theorem.

(i) State the Mean Value Theorem.

(ii) Sketch a function which satisfies the hypothesis of the Mean Value Theorem on  $[a, b]$  and has exactly three values in  $(a, b)$  which satisfy the conclusion.

(iii) Sketch a function which is continuous on  $[a, b]$ , but does not satisfy the conclusion of the Mean Value Theorem.

i) CONSULT THE TEXT

