

# Math137 - November 2'nd, 2015

## NOTE:

Today, we had a different prof teach our class. She spoke quieter than her chalk hitting the board, so I picked up next to nothing. Because of this, this note is a **TAD** short.

## Recap: Extreme Value Theorem

If  $f$  is continuous on a closed interval  $[a, b]$ , then  $f$  attains an absolute max  $(c, f(c))$  and an absolute minimum  $(d, f(d))$  at values  $c, d$  in the interval  $[a, b]$ .

## Extreme Value Theorem: Constant Functions

If  $f(x) = c$ , where  $c$  is some constant, all points on the function in any closed interval are simultaneously absolute maximums and absolute minimums.

## Fermat's Local Extreme Theorem

If  $f$  has a local extreme max or extreme min at the point  $c$  and  $f'(c)$  exists, then  $f'(c) = 0$ .