

## Quiz #8

NAME -

1. Use the Mean Value Thm to show that  
 $|\sin x - \sin y| \leq |x-y|$  for all  $x, y \in \mathbb{R}$ .
2. Prove that if  $f$  is differentiable on an interval  $I$  and if  $f'$  is bounded on  $I$ ,  
then  $f$  satisfies a Lipschitz condition on  $I$ .