$|\sin(b) - \sin(a)|$ VS. $|b-a|$

$$\min f' \leq f'(c) \leq \max f'$$

$$\min \cos \leq f'(c) \leq \max \cos$$

$$-1 \leq f'(c) \leq 1$$

$$-(b-a) \leq \sin(b) - \sin(a) \leq (b-a)$$

$$|\sin b - \sin a| \leq |b-a|$$