

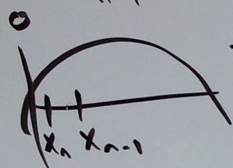
WHAT IS α

$$\alpha = 0$$

WHAT IS x_{n-1}, x_n

$$x_n = 0.00009$$

$$x_{n-1} = 0.0001$$



IS THERE

$$\frac{|0 - x_n|}{|0 - x_{n-1}|^r} \leq C$$

$$\boxed{x_n < x_{n-1}}$$

$$\frac{x_n}{x_{n-1}^r} \leq C$$

WHAT CONSTRAINTS C?

BUT C CAN BE ANYTHING, SO THIS IS ALWAYS TRUE

A SEQUENCE $\{x_n\}$

CONVERGES TO α IF THERE EXISTS A CONSTANT C

$$\frac{q}{c}$$

FOR

$$0 \leq x < \frac{1}{2}$$

$$g'(x) > 0$$

$$\frac{1}{2} < x \leq 1$$

$$g'(x) < 0$$

$$0.009 \leq \dots$$

$$\dots 0.0.01$$

$$|0 - x_{n+1}| \leq C |0 - x_n|^r$$

r IS ORDER OF CONVERGENCE

EQUIVALENT TO

$$|0 - x_n| \leq C |0 - x_{n-1}|^r$$

$$|0 - x_{n+1}|$$