2

a

$$x_{n+1} = -16 + 6\cdot(3) + 12\,\frac{1}{(3)}$$

$$= 6 > 3 \longrightarrow$$

x_{n+1} DOESN'T MAP ALL $x \in [1, 3]$ ON $[1, 3]$, SO $\{x_n\}$ WON'T CONVERGE TO $\alpha = 2$

THIS HOLDS FOR $x \in [1.99, 2.01]$