$\frac{2}{C}$

$x_{n+1} = g(x)$

$g(2.5) = \frac{12}{1+2.5} = 3.4$

$g(3.5) = \frac{12}{1+3.5} = 2.7$

$|g'(x)| = |12 \cdot (1 + x_n)^{-2}|$

FOR SOME $x_0 \in [2.5, 3.5]$ $\{x_n\}$ WILL CONVERGE BUT NOT NECESSARELY TO α

$|g'(2.5)| = |12(1 + 2.5)^{-2}| = 0.98 < 1$

$|g'(3.5)| = |12(1 + 3.5)^{-2}| = 0.59 < 1$

FOR $\forall\, x_0 \in [2.5, 3.5]$ $\{x_n\} \longrightarrow \alpha = 3$

$r \approx \frac{\ln E_n}{\ln E_{n-1}} \approx \frac{\ln|3-3.43|}{\ln|3-2.71|} \approx \boxed{1.5 \approx r}$

* I DID THIS W/ THE PYTHON INTERPRETER