

(24)

which of the following iterations will converge to the indicated fixed point α (provided x_0 is sufficiently close to α)? If it does converge, give the order of convergence; for linear convergence, give the rate of linear convergence.

a). $x_{n+1} = -16 + 6x_n + \frac{12}{x_n}$ $\alpha = 2$

b). $x_{n+1} = \frac{2}{3}x_n + \frac{1}{x_n^2}$ $\alpha = 3^{1/3}$

c). $x_{n+1} = \frac{12}{1+x_n}$ $\alpha = 3$