

$$1) \quad x_{n+2} = \frac{15}{4.1} x_{n+1} - \frac{14}{16.81} x_n \Rightarrow \frac{1}{4^{n+2}} = \left(\frac{15}{4.1} \right) \left(\frac{1}{4^{n+1}} \right) - \frac{14}{16.81} x_n$$

$$\frac{1}{4^{n+2}} = \frac{15}{4.1^{n+2}} - \frac{14}{16.81} x_n$$

$$\frac{14}{16.81} x_n = \frac{15}{4.1^{n+2}} - \frac{1}{4.1^{n+2}} = \frac{14}{4.1^{n+2}}$$

$$x_n = \frac{1}{16.81} \frac{1}{4.1^{n+2}}, \quad 16.81 = 4.1^2$$

$$\therefore x_n = \frac{1}{4.1^n}$$

$$\lim_{n \rightarrow \infty} x_n = \frac{1}{\infty} = 0$$