

$$(a+rd)^r = (a+d)(a+rd) \rightarrow ar^r + rd^r + rad = ar^r + rad + ad + rd^r \quad -v$$

$$rd^r - rad = 0 \rightarrow d(rd - ra) = 0 \begin{cases} d=0 \rightarrow \frac{1}{r} + \frac{1}{\varepsilon} \rightarrow \text{Cik} \\ d=a \xrightarrow{a=\frac{1}{2}} d=\frac{1}{r} \end{cases}$$

$$\frac{1}{r} + \frac{1}{\varepsilon}, \frac{1}{\varepsilon} + \frac{1}{\varepsilon} \rightarrow \frac{1}{\varepsilon}, \frac{\varepsilon}{\varepsilon}, r, r$$

$$a_{10} = \frac{1}{\varepsilon} \cdot r^9 = r^9 \cdot \frac{1}{\varepsilon} \leq a_{10} > \frac{1}{\varepsilon}$$

$$r^r ar, r^r ar^r, ar^r \rightarrow \varepsilon ar^r = r^r ar + ar^r \rightarrow far^r = ar(r^r + r^r) \quad (1)$$

$$\rightarrow fr = r + r^r \rightarrow r^r - fr + r^r = 0$$

$$\frac{d}{dx} \left(\frac{r-1}{x} \right) \left(\frac{r-1}{r} \right)$$

$$x > \frac{1}{\varepsilon}, \dots \quad a_n = r + (n-1) \left(\frac{1}{\varepsilon} \right) \left(\frac{1}{\varepsilon} \right) + \frac{1}{\varepsilon} \left(\frac{1}{\varepsilon} \right) + \frac{1}{\varepsilon} \quad (9)$$

$$a_n = a + rd = a + \frac{r}{\varepsilon} \cdot \frac{1}{\varepsilon} \cdot \frac{1}{\varepsilon}$$

$$a_n = \frac{1}{\varepsilon}$$

$$a_{11} = -1$$

$$\Rightarrow \left(\frac{1}{\varepsilon} + x \right)^r - \left(\frac{1}{\varepsilon} + x \right) (1+x)$$

$$\frac{1}{14} + x^r + \frac{1}{r} x = \frac{10}{\varepsilon} + \frac{5}{\varepsilon} x - x + x^r \rightarrow \frac{r14}{14} = \frac{1}{\varepsilon} x \quad x = -\frac{11}{\varepsilon}$$

$$\frac{\frac{10}{\varepsilon} + x}{-1} \quad \frac{\frac{1}{\varepsilon} + x}{-1} \quad -1 + x \quad a_n = \frac{10}{\varepsilon} + \frac{5}{\varepsilon} x$$

$$a + ar^r + ar^r = vr \quad a(1+r^r+r^r) = vr$$

$$ar^r = a + d \rightarrow a(r^r - 1) = d \quad a + rd = ar^r \rightarrow a(r^r - 1) = rd \quad \frac{rd}{a} = \frac{a(r^r - 1)}{a(r^r - 1)}$$

$$\frac{rd}{a} = \frac{(r^r - 1)(r^r - 1)}{r^r - 1} = \frac{rd}{a} \rightarrow r^r + 1 \rightarrow r^r = 1 \quad r, r$$

$$\Rightarrow a(1+r^r+r^r) = vr \quad a < 1$$

$$ar^r = 1 \cdot r^r = r^r = \frac{1}{r} + rd$$

$$1 + rd = r^r \Rightarrow a < 1$$