

$$\text{الف) } Cg_n \cdot Y_{2n-1} \rightarrow \cancel{Cg_n \cdot Y_{2n-1}} = Y_{2n-1} \rightarrow Y_{2n-1} + Y_{2n-1} \rightarrow Y_{2n-1} \cdot \frac{1}{1+Y} \rightarrow 1$$

$$\frac{Y_{2n-1}}{Y_{2n-1}} = \frac{1}{Y} \rightarrow Y_{2n-1} = Y \cdot X \rightarrow \boxed{X = YK_a + \frac{a}{Y}, YK_a + \frac{\Delta a}{Y}}$$

$$\rightarrow Cg_n + Cg_n - Y_{2n-1} \rightarrow Cg_n - \cancel{Y_{2n-1}} + Cg_n - Y_{2n-1} \rightarrow Y_{2n-1} + Cg_n - Y_{2n-1} \rightarrow \boxed{Cg_n = 1}$$

$$\boxed{X = YK_a} \quad Cg_n = -\frac{Y}{Y} \cdot X$$

$$\text{الف) } \frac{Y_{2n} - Cg_n}{Y_{2n} - Cg_n} = \frac{Y_{2n}}{Y_{2n}} \rightarrow Y_{2n} + Cg_n \rightarrow Y_{2n} \cdot Cg_n + Cg_n =$$

$$\rightarrow Cg_n(Y_{2n} + 1) = Y_{2n} \rightarrow Y_{2n} = K_a + \frac{a}{Y} \rightarrow \boxed{X = \frac{K_a}{Y} + \frac{a}{Y}}$$

$$Y_{2n} - 1 \rightarrow Y_{2n} = \frac{1}{Y} \rightarrow Y_{2n} = YK_a + \frac{a}{Y}, YK_a + \frac{\Delta a}{Y}$$

$$\rightarrow Y_{2n} + Y_{2n} Cg_n = 1 \rightarrow Y_{2n} - \cancel{Y_{2n}} = 1 - Y_{2n} \rightarrow \boxed{X = K_a + \frac{a}{Y}, K_a + \frac{\Delta a}{Y}}$$

$$\rightarrow Cg_n = Y_{2n} \rightarrow Y_{2n} = K_a + \frac{a}{Y} \rightarrow \boxed{X = \frac{K_a}{Y} + \frac{a}{Y}}$$

$$\text{الف) } \frac{Cg_n}{Y_{2n}} (Y_{2n} + 1) = \frac{1}{Y_{2n}} \rightarrow Cg_n(Y_{2n} + 1) = 1 \rightarrow Y_{2n} + Cg_n = 1$$

$$\rightarrow Cg_n = -1 \rightarrow X = YK_a + a$$

$$Cg_n = -\frac{1}{Y} \rightarrow X = YK_a + a + \frac{a}{Y}$$

ب. 406

$$\rightarrow Y_{2n} - Y_{2n} Cg_n + Cg_n = Y$$

$$\div Y_{2n} \rightarrow Y - Cg_n + Cg_n = \frac{Y}{Y_{2n}} \cdot Y(1 + Cg_n) \rightarrow Cg_n + Cg_n = Cg_n(Cg_n + 1)$$

$$\rightarrow Cg_n = 1 \rightarrow \boxed{X = K_a + \frac{a}{Y}}$$

$$Cg_n = -1 \rightarrow \boxed{X = K_a - \frac{a}{Y}}$$

$$\text{الف) } Cg_n \left(\frac{Y}{Y_{2n}} + 1 \right) = \frac{1}{Y_{2n}} \rightarrow \frac{1}{Y} \cdot Y \left(Y_{2n} + \frac{a}{Y} \right) = \frac{1}{Y_{2n}} \rightarrow Cg_n = \frac{1}{Y} \rightarrow Y_{2n} = YK_a + \frac{a}{Y}$$

$$\boxed{X = K_a + \frac{a}{Y}}$$

$$\rightarrow Cg_n \left(Y_{2n} - \frac{a}{Y} \right) = Y_{2n} \rightarrow Cg_n \left(Y_{2n} - \frac{a}{Y} \right) = Y_{2n} \rightarrow Cg_n \left(Y_{2n} - \frac{a}{Y} \right) = 1 \left(Y_{2n} + \frac{a}{Y} \right)$$

$$\rightarrow Y_{2n} - \frac{a}{Y} = YK_a + \frac{a}{Y} \rightarrow YK_a + \frac{a}{Y} + \frac{a}{Y} = Y_{2n} \rightarrow YK_a + \frac{2a}{Y} = Y_{2n}$$

$$Y_{2n} - \frac{a}{Y} = YK_a - \frac{a}{Y} \rightarrow YK_a - \frac{a}{Y} = Y_{2n} \rightarrow \boxed{X = \frac{K_a}{Y} - \frac{a}{Y}}$$

$$\frac{Y_{2n} + Y_{2n}}{Y_{2n}} = \frac{Y_{2n}}{Y_{2n}} + \frac{Y_{2n}}{Y_{2n}} \rightarrow \frac{Y_{2n}}{Y_{2n}} + 1 = \frac{Y_{2n}}{Y_{2n}} + Cg_n \rightarrow \frac{Y_{2n}}{Y_{2n}} = Cg_n \rightarrow \frac{Y_{2n}}{Y_{2n}} = 1 \rightarrow Y_{2n} = 1$$

$$Y_{2n} = 1 \rightarrow Y_{2n} = K_a \rightarrow \boxed{X = \frac{K_a}{Y}}, Y_{2n} \neq 0 \rightarrow Y_{2n} \neq K_a \rightarrow \boxed{X = \frac{K_a}{Y} + \frac{a}{Y}}$$

$$\frac{g^N}{1+g^N} \cdot \frac{1+g^N}{g^N} \rightarrow g^N \cdot (1+g^N)^{-1} \rightarrow 1-g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow 1-g^N \cdot g^N \cdot (1+g^N)^{-1}$$

$$\rightarrow 1-g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow 1-g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow 1-g^N \cdot g^N \cdot (1+g^N)^{-1}$$

$$g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow g^N \cdot g^N \cdot (1+g^N)^{-1}$$

$$g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow g^N \cdot g^N \cdot (1+g^N)^{-1}$$

$$\rightarrow \mu = \gamma K a + a \rightarrow \mu = \frac{\gamma K a}{\mu} + \frac{a}{\mu}$$

$$\frac{1-t_{\mu}}{1+t_{\mu}} = t_{\mu} \rightarrow \frac{g^N - g^N}{g^N + g^N} = \frac{g^N - g^N}{g^N + g^N} = \frac{g^N - g^N}{g^N + g^N}$$

$$\rightarrow g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow g^N \cdot g^N \cdot (1+g^N)^{-1}$$

$$\rightarrow \gamma g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow \gamma g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow \gamma g^N \cdot g^N \cdot (1+g^N)^{-1}$$

$$\rightarrow \gamma g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow \gamma g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow \gamma g^N \cdot g^N \cdot (1+g^N)^{-1}$$

$$\rightarrow g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow g^N \cdot g^N \cdot (1+g^N)^{-1}$$

$$\rightarrow g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow g^N \cdot g^N \cdot (1+g^N)^{-1} \rightarrow g^N \cdot g^N \cdot (1+g^N)^{-1}$$

$$\rightarrow \mu = \frac{\gamma K a}{\mu} + \frac{a}{\mu}$$

2/206