

$$d_a = 2 \rightarrow d_{b_1} = 4 \rightarrow t_n = a_n y_n - 2 = y_n - 1$$

$$d_b = 2 \rightarrow t_1 = 1$$

$$b_{r_0} = 2(19) + 2 = 40$$

$$a_{r_0} = 2(19) \cdot 2 = 76$$

$$y_{n-1} \leq 21$$

$$y_n \leq 45 \rightarrow n \leq 10$$

(2)

$$a_p = 1 \rightarrow \text{sub}$$

$$d_p = 10$$

$$a_1 + 1 + 10 = 11 \rightarrow a_1 = 0$$

$$a_1 = -11$$

$$\frac{10 - 1 - 10}{-11} = \frac{-1}{-11} = \frac{1}{11}$$

$$\frac{a_p - a_r + a_1}{a_1} = \frac{10 - 1 - 11}{-11} = \frac{-2}{-11} = \frac{2}{11}$$

(1)

$$a_p = 0 \rightarrow t_1 + d$$

$$a_p \cdot d = 10 \rightarrow 0 \cdot t_1 + 10 = 10$$

$$t_1 + d = 0 \rightarrow \begin{cases} -t_1 + 10 = -10 \\ t_1 + 10 = 10 \end{cases}$$

$$\frac{10 - 10}{10} = \frac{0}{10} = 0$$

$$t_1 = 1$$

$$t_{10} = 1 + (10)9 = 91$$

$$S_1 = 9S_2 \rightarrow S_1 \cdot 10 = 10S_2 \rightarrow 9a_1 + 10d = 10(9a_1 + 10d)$$

$$9a_1 + 10d = 90a_1 + 100d$$

$$\frac{9a_1}{90a_1} = \frac{10d}{100d} = \frac{1}{10}$$

$$t_1 + t_v = t_p + t_r \rightarrow t_p = 10 \rightarrow 10 + 10d = 10 \rightarrow d = 0$$

$$a_p = 10 + (10) \cdot 0 = 10$$

$$\frac{10 - 10}{10} = -1 \rightarrow -10 = -10k - 10 \rightarrow 10 = 10k$$

$$k = 1$$

