.

$$\Leftrightarrow y_n = y_0 \cdot (b^n)^{\frac{\log a}{\log b}}$$

$$t_n = t_{max} \cdot (1 - b^n) \Leftrightarrow \frac{t_n}{t_{max}} = 1 - b^n$$

$$h_0(t) = -\frac{g}{2} \cdot t^2 + v_0 \cdot t + 0 = t \left(v_0 - \frac{g}{2} \cdot t \right)$$

$$t_{0,1} = 0$$

$$t_{0,2} = \frac{2v_0}{g}$$

$$v_1 = \alpha \cdot v_0$$

$$\Rightarrow t_{1,2} = \frac{2 \cdot v_1}{g}$$

$$m \cdot g \cdot h = \frac{m}{2} \cdot v^2 (Amplitude)$$

$$h = \frac{v^2}{2 \cdot g} = \frac{(\alpha \cdot v_{n-1})^2}{2 \cdot g}$$

$$h_{n+1} = \alpha^2 \cdot h_n$$

$$\frac{2 \cdot v_0}{g}$$

$$\frac{\log \alpha^2}{\log \alpha} = 2$$