

$$n \geq 0 \rightarrow y \leq \epsilon m \xrightarrow{nsy} y = \frac{n}{\epsilon}$$

$$n \leq 0 \rightarrow y \leq \epsilon m \xrightarrow{nsy} y = \frac{n}{\epsilon}$$

$$ab = \frac{\mu}{\lambda} \cdot \left(-\frac{1}{\lambda}\right) \rightarrow -\frac{\mu}{4\epsilon}$$

$$\frac{\frac{n}{\epsilon} + \frac{n}{\epsilon}}{\epsilon} = \frac{\mu}{\lambda} \rightarrow a = \frac{\mu}{\lambda} \quad n \leq 0 \rightarrow \frac{\mu}{\lambda} n - b n \leq \frac{n}{\epsilon} \rightarrow b = -\frac{1}{\lambda} \Rightarrow$$

$$\frac{y + \epsilon}{\epsilon + m} \leq b \rightarrow r + m \leq \frac{1}{b} \rightarrow n \leq r \rightarrow f(n) \leq \frac{\mu + \epsilon}{n - \mu} \rightarrow f(n) \leq f'(n)$$

$$y \leq f'(n) + f'(n) \rightarrow n + \frac{\mu + \epsilon}{n - \mu} \leq y \rightarrow n + \frac{\mu + \epsilon}{n - \mu} \leq \frac{\mu}{\epsilon} n \rightarrow \mu n + \epsilon \leq \mu n - \mu \rightarrow n \leq -\frac{\epsilon}{\mu}$$

$$f'(t) \leq \mu \leftarrow f(\mu - t) = t$$

$$r \cdot g(\mu) \leq t \rightarrow g(\frac{\mu}{r}) \leq r t \rightarrow g'(\frac{\mu}{r}) \leq \frac{\mu}{r} \rightarrow \mu \leq \epsilon g'(\frac{\mu}{r})$$

$$f'(t) = \mu - \epsilon g'(\frac{\mu}{r}) \xrightarrow{t \leq r} f'(-r) = \mu - \epsilon g'(\epsilon)$$

$$\epsilon g'(\epsilon) + f'(-r) \leq \epsilon g'(\epsilon) + \mu - \epsilon g'(\epsilon) = \mu \checkmark$$

$$-y \leq \frac{-\omega n + (-1)^r}{1 + n} \rightarrow y \leq \frac{\omega n + 1^r \omega(n)^r}{1 + n} \rightarrow y \leq \frac{\omega(n+r) + 1^r}{1 + (n+r)}$$

$$y \leq \frac{\omega(n+r) + 1^r}{(n+r) + 1} - 1 \rightarrow f(n) \leq \frac{\mu + 4}{n-1}$$

$$\left. \begin{array}{l} f(n) \leq \frac{\mu + 4}{n-1} \\ f^{-1}(n) \leq \frac{n+4}{n+r} \end{array} \right\} \rightarrow \frac{r(n+r)}{n-1} \leq \frac{n+4}{n+r} \rightarrow \mu^r + \mu - 1 \leq \omega n + \mu^r - 4 \rightarrow \mu^r - \mu - 4 \leq \omega n$$

$$n + f(n) \leq y \quad \text{we want } n \leq [y] + n$$

$$[n] \leq [y + \epsilon [y]] \rightarrow [n] \leq [y] + \epsilon [y] \rightarrow [n] \leq \omega [y] \rightarrow [y] \leq \frac{[n]}{\omega} \rightarrow \epsilon [y] \leq \frac{\epsilon}{\omega} [n]$$

$$n \leq y + \frac{\epsilon}{\omega} [n] \rightarrow y \leq n - \frac{\epsilon}{\omega} [n]$$

$$f(n) = n + f(n), \quad g(n) = n - \frac{\epsilon}{\omega} [n] \Rightarrow f(n) - g(n) = \left(\frac{\epsilon}{\omega} [n]\right) \checkmark$$