

19, VD

المسألة الأولى

(1, VD) (1)

$$-\frac{b}{ca} \leq 1 \quad -\frac{1}{P(a-1)} \leq 1 \Rightarrow (a-1) \geq 1 \Rightarrow (a \leq 1) \Rightarrow a \leq \frac{1}{P}$$

$$y \leq -\frac{1}{\epsilon} n^m n_0 r \quad \Rightarrow -\frac{1}{\epsilon} n^m n_0 r \Rightarrow n^m - \epsilon n_0 (n_0 - 1)$$

طوبه + (4) ✓  
 (-2) x (2)

(3) m <

$$(a - \epsilon) m^r, \quad m^r < \frac{ca}{\epsilon}$$

$$-\frac{1}{\epsilon} m < \frac{1}{\epsilon} \quad (55)$$

$$\text{INSD} \Rightarrow \left(-\frac{1}{\epsilon}, 0\right) \checkmark$$

$$S \leq n_1 = n_2 \Rightarrow \frac{ca \sqrt{a+r} - r_0}{r} \leq r$$

$$P \leq n_1, n_2 \Rightarrow \frac{P-a}{a} \leq \frac{\epsilon}{a} \Rightarrow n^m - S n + P \Rightarrow n^m - r n + \frac{\epsilon}{a}$$

$$q \left( n^m - r n + \frac{\epsilon}{a} \right) \Rightarrow q n^m - (r n - \epsilon) \checkmark$$

$$\alpha^m + \beta^m \leq (r) \Rightarrow (\alpha^m + \beta^m) \leq r \alpha^m \Rightarrow (1 - m) \alpha^m \leq r \Rightarrow \alpha^m \leq \frac{r}{1-m}$$

$$a \leq \sqrt{\frac{m \cdot r}{r}}$$

$$\alpha^m - \lambda a \leq m \cdot r \Rightarrow m \cdot r - \lambda \sqrt{\frac{m \cdot r}{r}} + m \cdot r \leq 0$$

$$x \leq \frac{1}{\epsilon} \sqrt{\frac{m \cdot r}{r}} \quad m^m - \lambda m + 1 \leq 0 \Rightarrow (m - \epsilon)^m \leq 0 \quad (m \leq \epsilon) \checkmark$$

$$y = a n^m e^{b n} \Rightarrow y = a n^m - \epsilon a n^m$$

$$(a - \lambda a) e^{b n} \leq a \Rightarrow \text{case } (a - 1)$$

$$-\frac{b}{ca} \leq 1 \quad \epsilon a \leq b$$

$$y \leq -n^m + \epsilon n^m$$

(b < \epsilon) ✓  
 (-1, 0) ✓

$$s - \frac{b}{a} \leq \frac{V}{a} \leq a + \beta$$

$$p = \frac{a\beta}{a} \leq a\beta \Rightarrow a^2 \leq a \Rightarrow a \leq 1$$

$$\Rightarrow \sqrt{a} \leq \sqrt{a\beta} = \frac{V}{a} \leq \sqrt{a\beta} \Rightarrow \beta \leq \frac{V}{a}$$

$$\left\{ \begin{aligned} ds - m &\leq -\frac{V}{a} s - m + \beta \leq \beta \leq \frac{V}{a} \end{aligned} \right.$$

$$\frac{1}{a} + \frac{1}{\beta} \leq -\frac{1}{a} + \frac{m}{a} \leq \frac{V}{a} \quad \checkmark \quad s = -m$$

$$d^m s^m - \frac{d^m}{dm} \quad \frac{r m - m a}{a} \quad -m \quad \Rightarrow \Lambda \text{em} \left( \frac{d}{a} \right) \leq m$$

$$m^2 + m - 1 \leq (m+1)(m-1) \Rightarrow m^2 - 1 \Rightarrow \Delta C. \quad \checkmark$$

$$s = -1 \quad \checkmark$$

mc.

$$\frac{(m)(\frac{m}{a} - 1) - 1}{a m} \leq 1 \quad \frac{m^2}{a} + m - 1 \leq \Lambda m$$

$$\frac{m^2}{a} - m - 1 \leq m^2 + m - 1 \quad (m-1)(m+1) \quad \checkmark$$

$$-1 \leq m^2 + m - 1 \leq m^2 - m - 1 \quad \checkmark$$

ac.

$$y = a n^r + b n^{-r} \quad \frac{-b}{a} \leq p \leq a - b$$

$$y = a n^r - \epsilon a n^{-r}$$

$$y = -\frac{1}{a} n^r + \epsilon n^{-r} \Rightarrow \frac{1}{a} + \frac{1}{\beta} \leq \frac{a + \beta}{a\beta} \leq \frac{1}{a} \quad \checkmark$$

$$\Delta \rangle. \quad (f(a+1) - f(a)) - (f(a) - f(a-1)) \Rightarrow f(a+1) - f(a) > 0 \Rightarrow (a+1) > a \Rightarrow a \neq 1$$