

$$\left\{ \begin{array}{l} \mathbb{R} \supset \mathfrak{h} \xrightarrow[2\text{-diff}]{\gamma} \mathbb{R} \\ \mathfrak{h} \ni o \text{ crit point } {}^o\mathfrak{h} = 0 \\ {}^o\mathfrak{h} \neq 0 \end{array} \right. \stackrel{2 \text{ EXT}}{\implies} \left\{ \begin{array}{l} {}^o\mathfrak{h} > 0 \implies {}^o\mathfrak{h} \text{ isol loc min} \\ {}^o\mathfrak{h} < 0 \implies {}^o\mathfrak{h} \text{ isol loc max} \end{array} \right.$$

$$0 < \overline{\mathfrak{h} - o} \underset{*}{\leq} \overset{o}{\mathfrak{h}} \left(\overset{o}{\overline{\mathfrak{h}}} \right) \implies {}^o\mathfrak{h} - \overline{{}^o\mathfrak{h}} < \frac{{}^h\mathfrak{h}}{\mathfrak{h} - o} < {}^o\mathfrak{h} + \overline{{}^o\mathfrak{h}}$$

$$\overline{\frac{{}^h\mathfrak{h}}{\mathfrak{h} - o} - {}^o\mathfrak{h}} = \overline{\frac{{}^h\mathfrak{h} - \overset{=0}{\overline{{}^o\mathfrak{h}}}}{\mathfrak{h} - o} - {}^o\mathfrak{h}} \underset{*}{\leq} \overline{{}^o\mathfrak{h}} \implies -\overline{{}^o\mathfrak{h}} < \frac{{}^h\mathfrak{h}}{\mathfrak{h} - o} - {}^o\mathfrak{h} < \overline{{}^o\mathfrak{h}}$$

$$\begin{array}{l} {}^o\mathfrak{h} > 0 \implies 0 < \frac{{}^h\mathfrak{h}}{\mathfrak{h} - o} \implies \left\{ \begin{array}{l} \mathfrak{h} < o \implies \mathfrak{h} - o < 0 \implies {}^h\mathfrak{h} < 0 \\ \mathfrak{h} > o \implies \mathfrak{h} - o > 0 \implies {}^h\mathfrak{h} > 0 \end{array} \right. \begin{array}{l} \stackrel{1 \text{ DER}}{\implies} \mathfrak{h} \text{ streng antiton} \\ \stackrel{1 \text{ DER}}{\implies} \mathfrak{h} \text{ streng isoton} \end{array} \implies {}^o\mathfrak{h} \text{ isol loc min} \\ {}^o\mathfrak{h} < 0 \implies \frac{{}^h\mathfrak{h}}{\mathfrak{h} - o} < 0 \implies \left\{ \begin{array}{l} \mathfrak{h} < o \implies \mathfrak{h} - o < 0 \implies {}^h\mathfrak{h} > 0 \\ \mathfrak{h} > o \implies \mathfrak{h} - o > 0 \implies {}^h\mathfrak{h} < 0 \end{array} \right. \begin{array}{l} \stackrel{1 \text{ DER}}{\implies} \mathfrak{h} \text{ streng isoton} \\ \stackrel{1 \text{ DER}}{\implies} \mathfrak{h} \text{ streng antiton} \end{array} \implies {}^o\mathfrak{h} \text{ isol loc max} \end{array}$$