<u>TEOREMA 17</u> - SE f È CONT. IN I, DERIV. IN $\mathring{I}$,

f <u>STRETT. CRESC.</u> IN UN <u>INTERVALLO</u> $I \iff \begin{cases} j)\ \forall x \in \mathring{I},\ f'(x) \geq 0 \\ jj)\ \nexists J \subset I : \forall x \in J,\ f'(x) = \end{cases}$

DIM.

"$\Longrightarrow$"

$\approx j) \approx$ p.a. $\exists x_0 \in \mathring{I} : f'(x_0) < 0 \Longrightarrow f$ STRETT. DECR. IN x_0

$\approx jj) \approx$ p.a. $\exists J \subset I : \forall x \in J,\ f'(x) = 0 \Longrightarrow f(x) = \text{cost.},\ \forall x \in J$

"$\Longleftarrow$"

$j) \Longrightarrow f$ CRESC. IN $I \iff [\ \forall x', x'' \in I : x' < x'' \Rightarrow f(x') \leq f(x'$

$$\left.\begin{array}{lll} \text{p.a.} \quad f(x') = f(x'') & & \\ \forall x \in [x', x''], & x' < x & \Longrightarrow f(x') \leq f(x) \\ & x < x'' & \Longrightarrow f(x) \leq f(x'') \end{array}\right] \Longrightarrow$$

$$\Longrightarrow \forall x \in [x', x''], \qquad f(x') = f(x) = f(x'')$$

$$\Longrightarrow \forall x \in [x', x''], \qquad f'(x) = 0$$

$\square$

BUONOCORE