Cilab I - 49.4 2020/21
1º: texte - turna TP4B-2, TP4B-7
Resolução

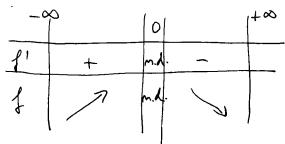
1. f(n) := 10 mdg (3 x 2-1)

(40 ports) $D_{1} = \{ n \in D_{3n^{2}-1} : 3n^{-2} - 1 \in D_{n}d_{3} \}$

Log, λ nivis petriga λ' $n \in D_{3x^2-1}$, an ruja, $n \neq 0$. λ' , $D_{\chi} = \mathbb{R} \setminus \{0\}$.

(130 ponts) $3'(x) = 10. \frac{(3x^2-1)^1}{1+(3x^2-1)^2} = \frac{-60x^3}{1+(3x^2-1)^2}, n \in \mathbb{R} \setminus \{0\}.$

1'(n)>0 0 -60 n-3>0 0 x3<0 0 n<0



Nas existen miximum: aprov de lim f(x) =5th, que excel tooks or valore de f, mas e miximum paque mas e tingid en menhon valor de dominio de f.

Note existen minimes: years de lim f(n) = -5th, h-3±00 (n) = -5th, for example of minimes for mention of the start of the start of deministration of the start of

2. f(n):= \(1+n \) in [0,6], com 6>0.

(15 ports) (on rige, of a regular on [0,6]), enter products

(15 ports) (on rige, of a regular on [0,6]), enter products $\frac{1}{2\sqrt{1+c}} = \frac{1}{\sqrt{1+c}} \iff \sqrt{1+c} = 1 + \frac{1}{\sqrt{1+c}}, c.q.d.$ $\Leftrightarrow \sqrt{1+5} - 1 = \frac{1}{\sqrt{1+c}} \iff \sqrt{1+5} = 1 + \frac{1}{\sqrt{1+c}}, c.q.d.$

(b) A partin de cline anteria, como eso entre (15 ponto) $2\sqrt{1+c} > 2$; como 6 > 0, entre $\frac{6}{2\sqrt{1+c}} < \frac{6}{2}$; conjugand com a remblada de clinea acturia, rementar que $\sqrt{1+b} = 1 + \frac{b}{2\sqrt{1+c}} < 1 + \frac{b}{2}$, c. q.d.

NOTA: Alternative par , cline (6):

\[
\sum{1+6} < 1+\frac{1}{2} \equivare 1+6 < (1+\frac{1}{2})^2
\]

(1+6 < 1+6+\frac{1}{4} \equivare 0 < \frac{1}{4}, que i'mme

(and you minimal (també attended a que,

par hipitar, 6 mar o' terr); devid às equivare

lêners, a condiçãor inicial també i minimal

(mo minimo do 6 position).