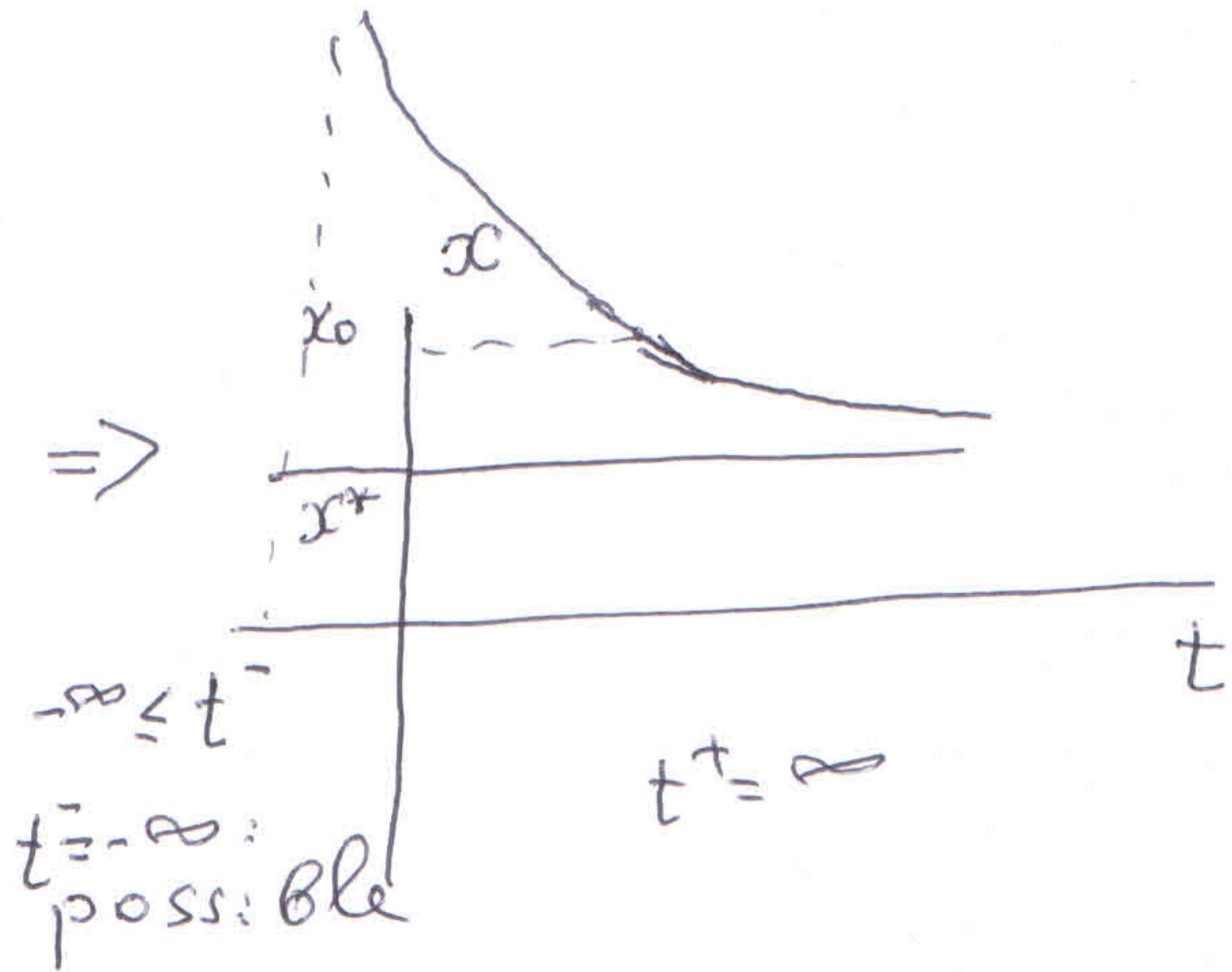
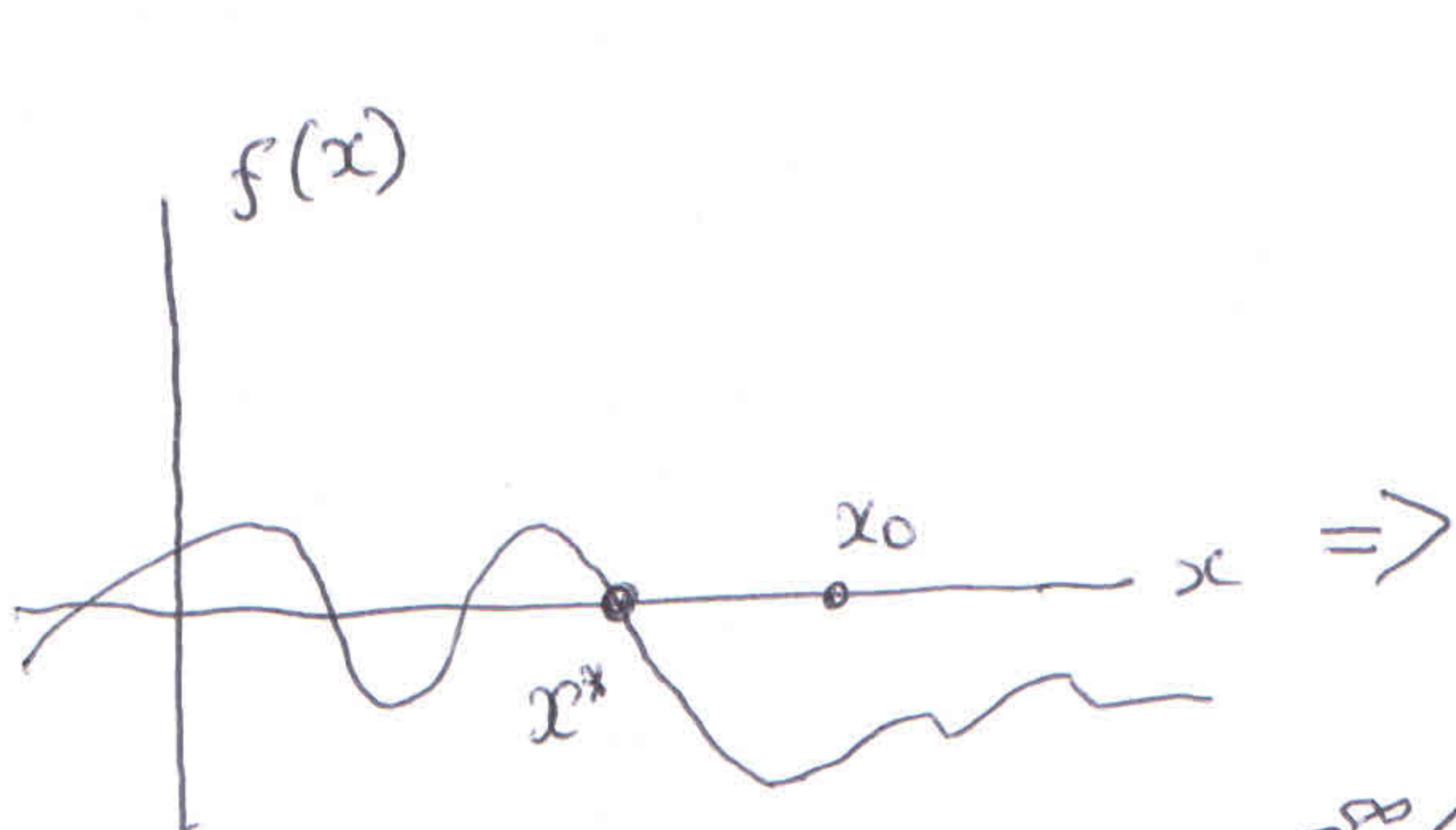
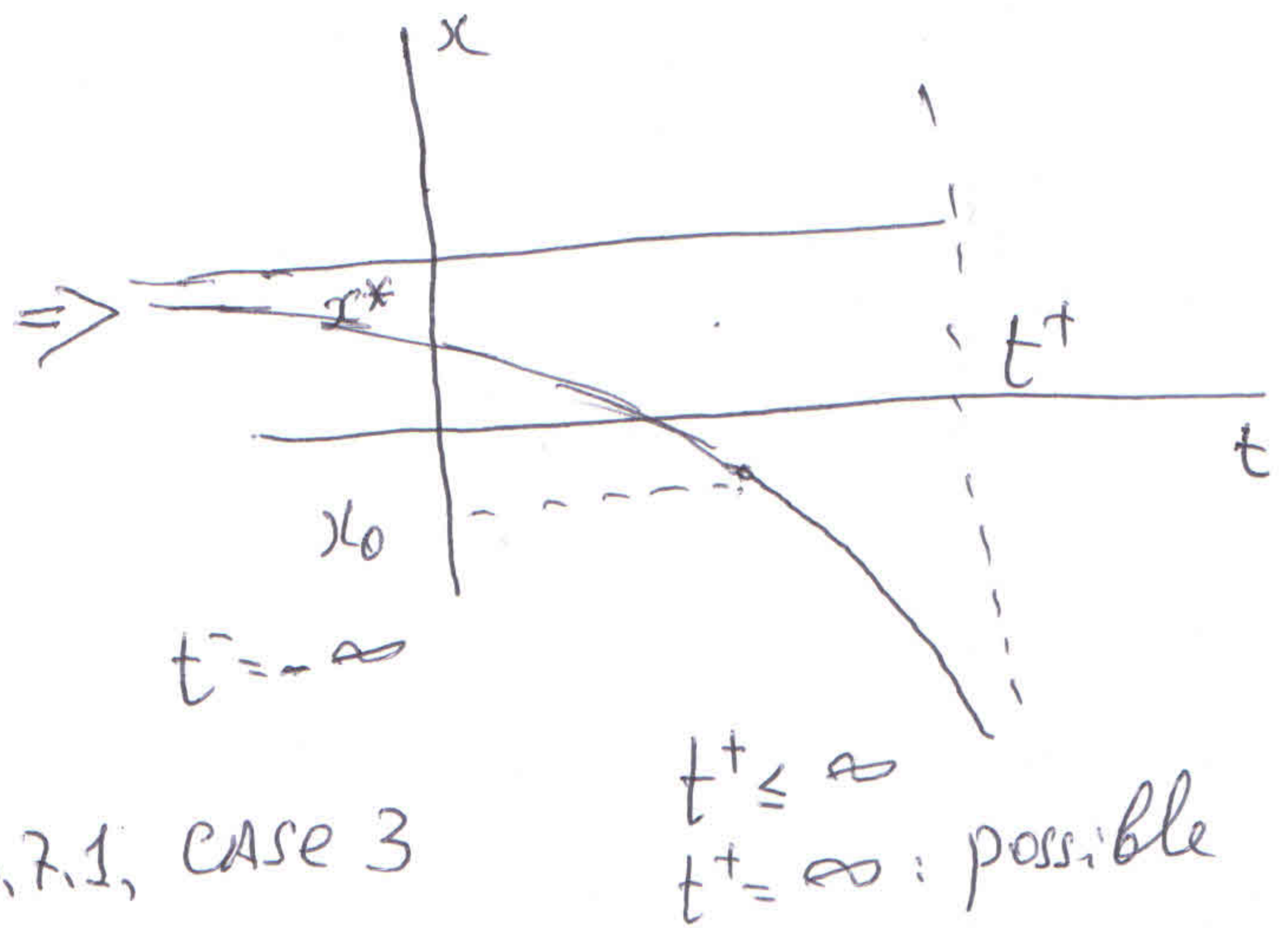
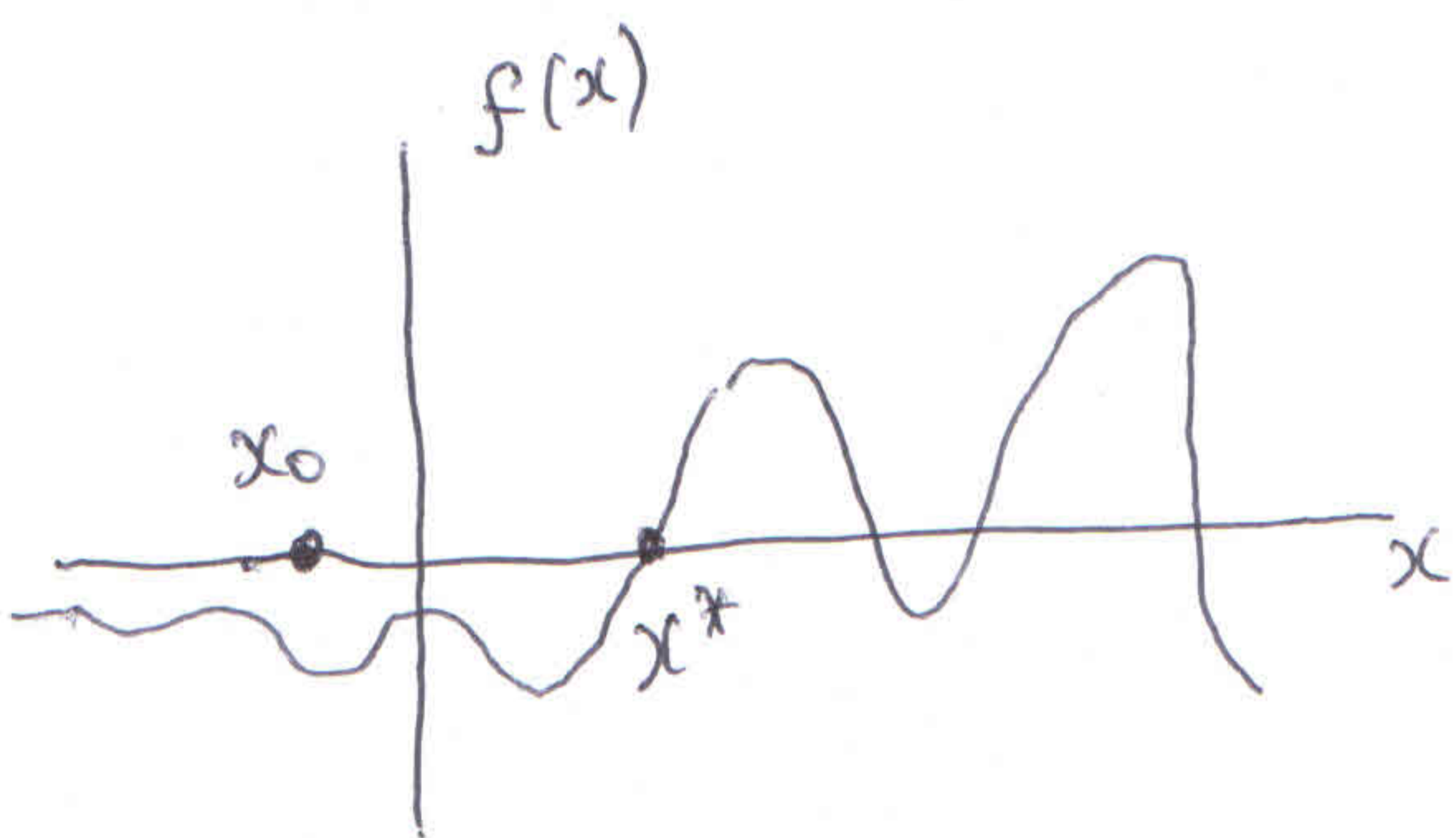


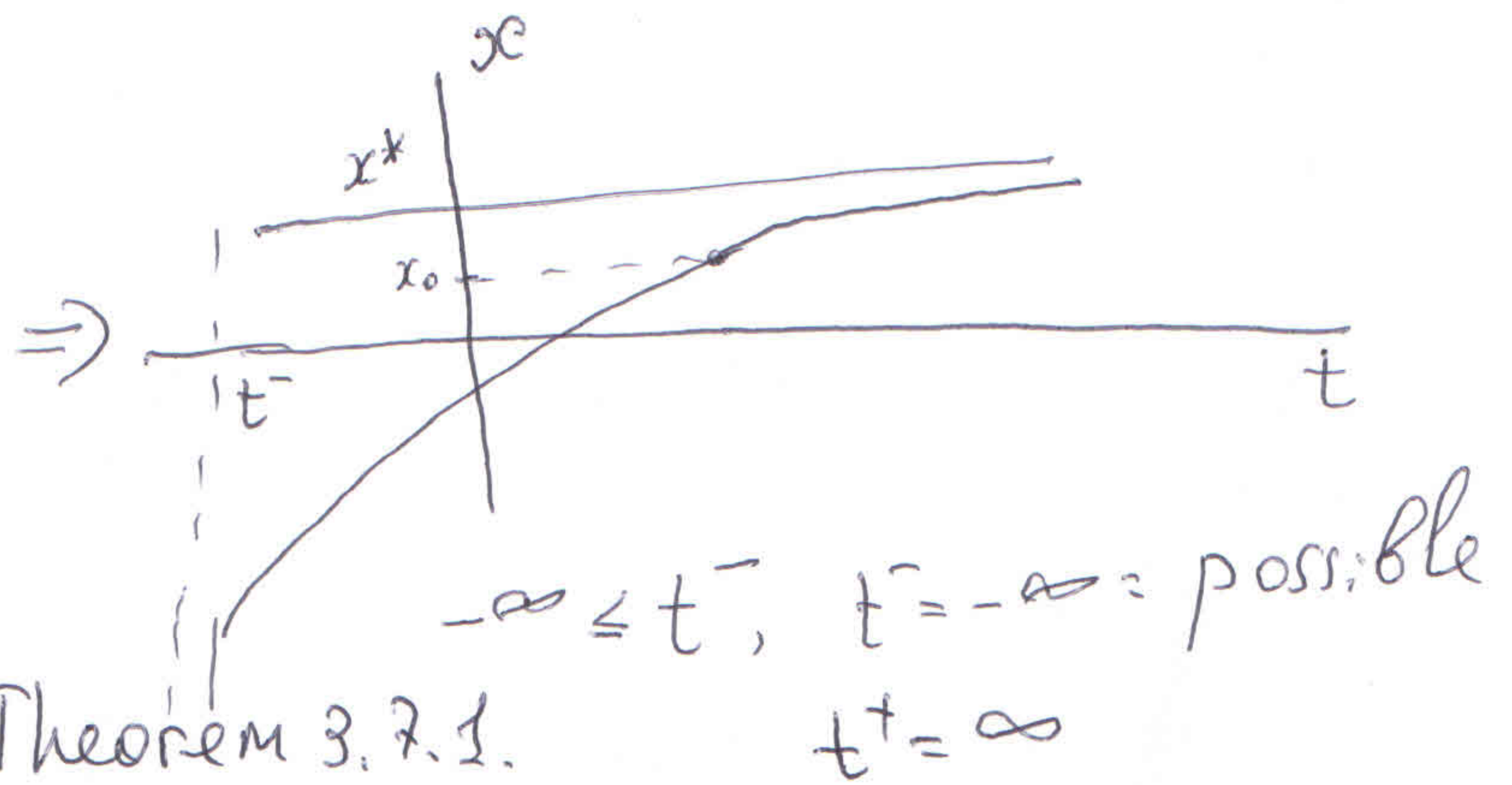
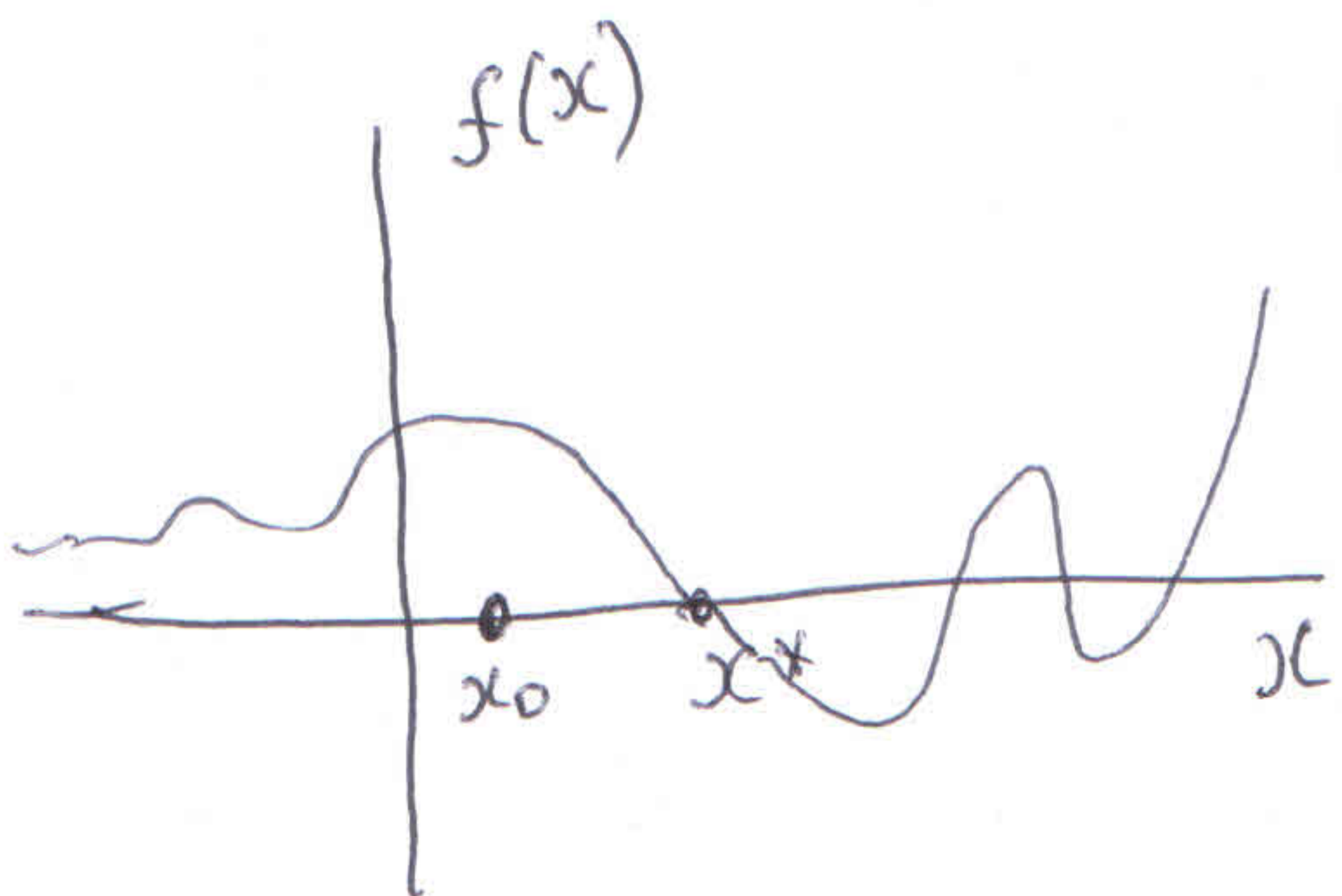
(a) Theorem 3.7.1, CASE 1



(b) Theorem 3.7.1, CASE 2



(c) Theorem 3.7.1, CASE 3



(d) fig. 3.5, Theorem 3.7.1.

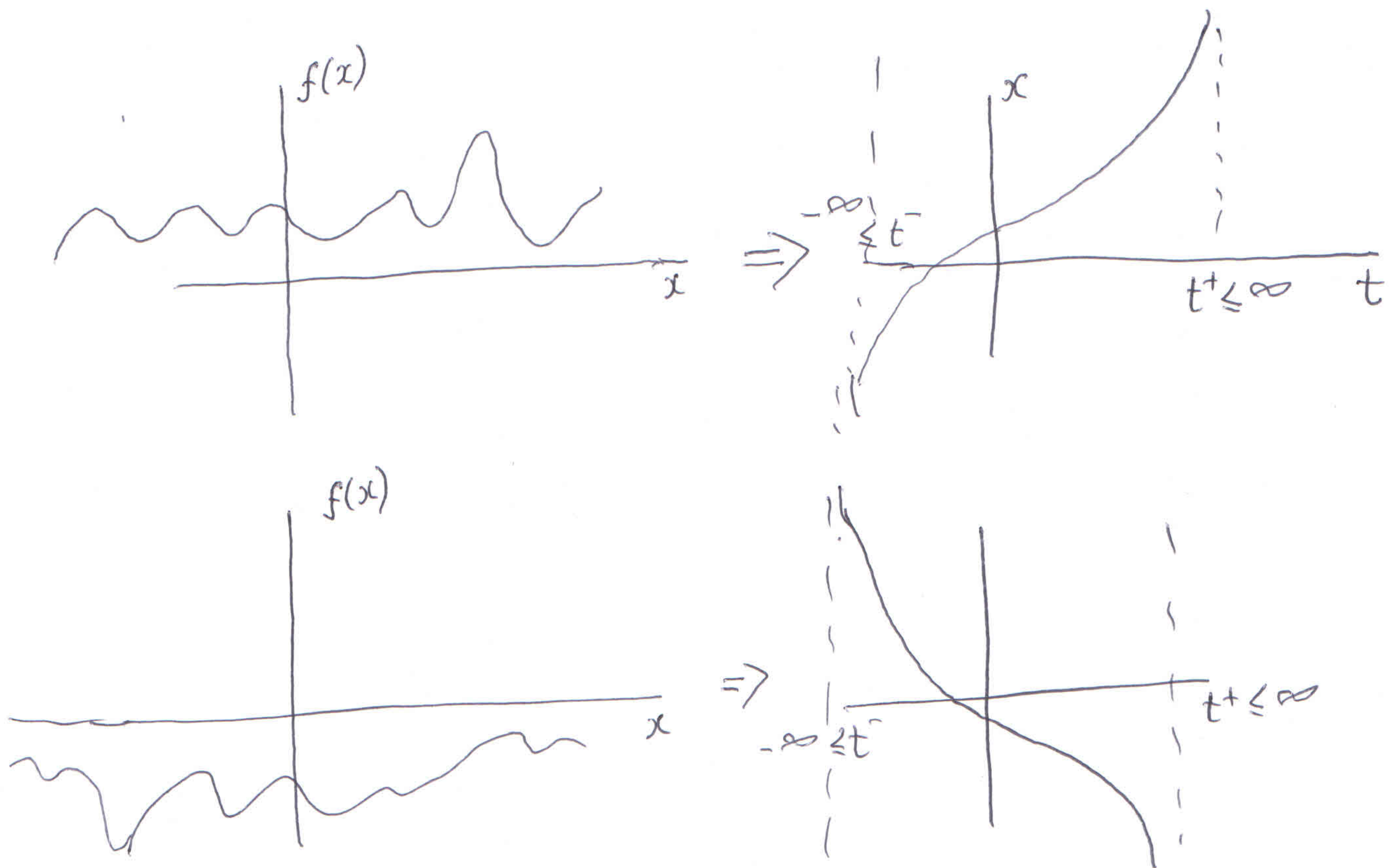
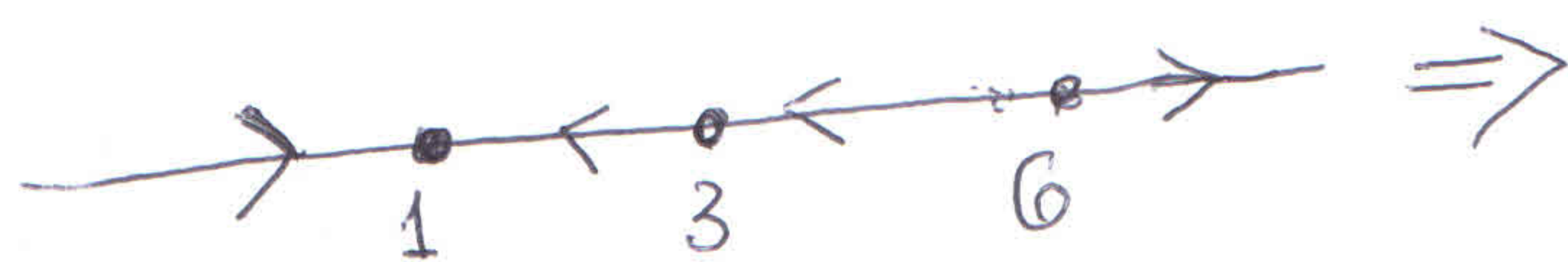
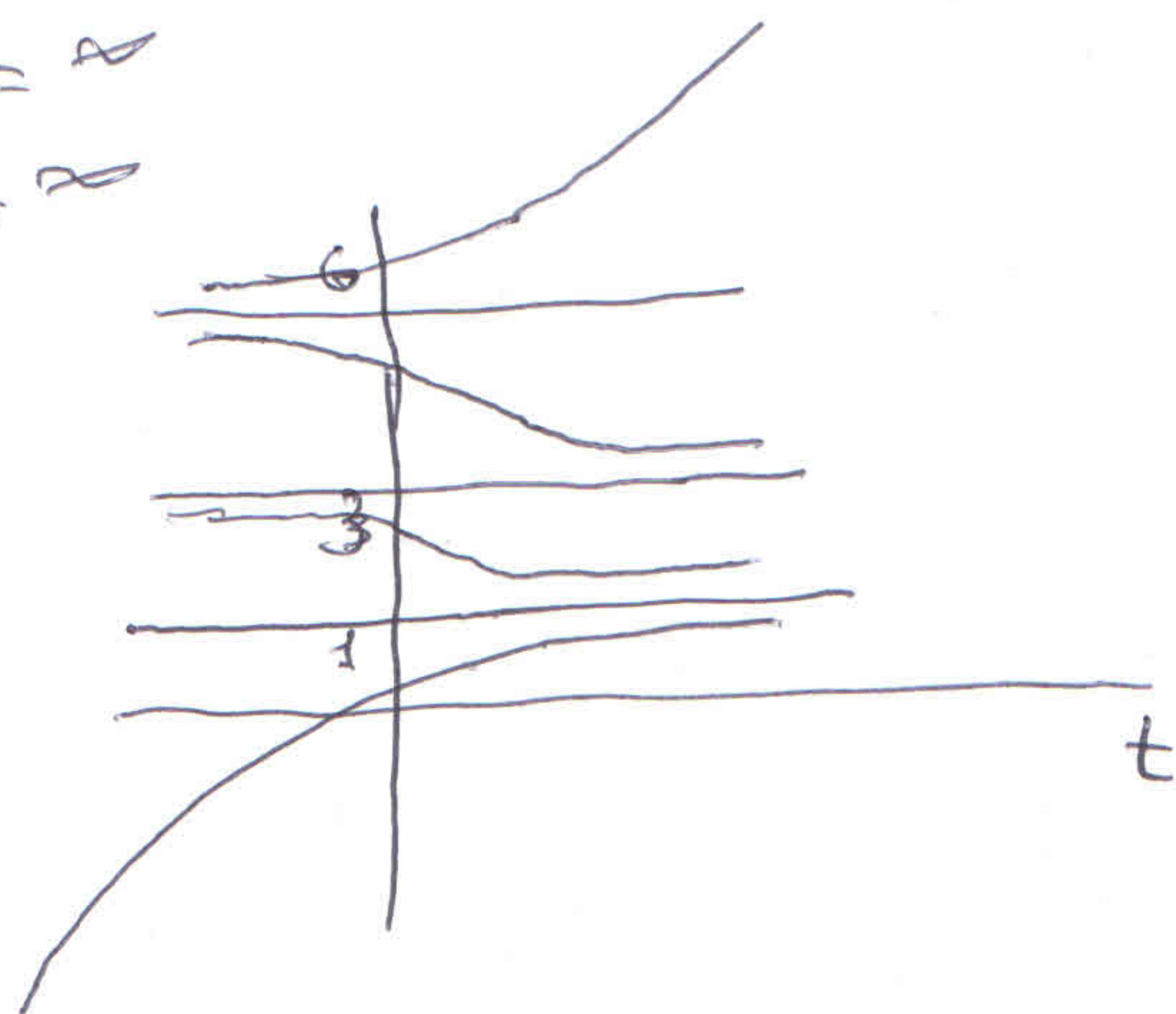


fig. 3.6. Theorem 3.8.1

Possible cases :: t^-, t^+ : finite numbers
 $t^- = -\infty, t^+$ finite
 t^- finite, $t^+ = \infty$
 $t^- = -\infty, t^+ = \infty$



(a) phase portrait



(b) solutions

fig. 3.7. Example of a phase portrait

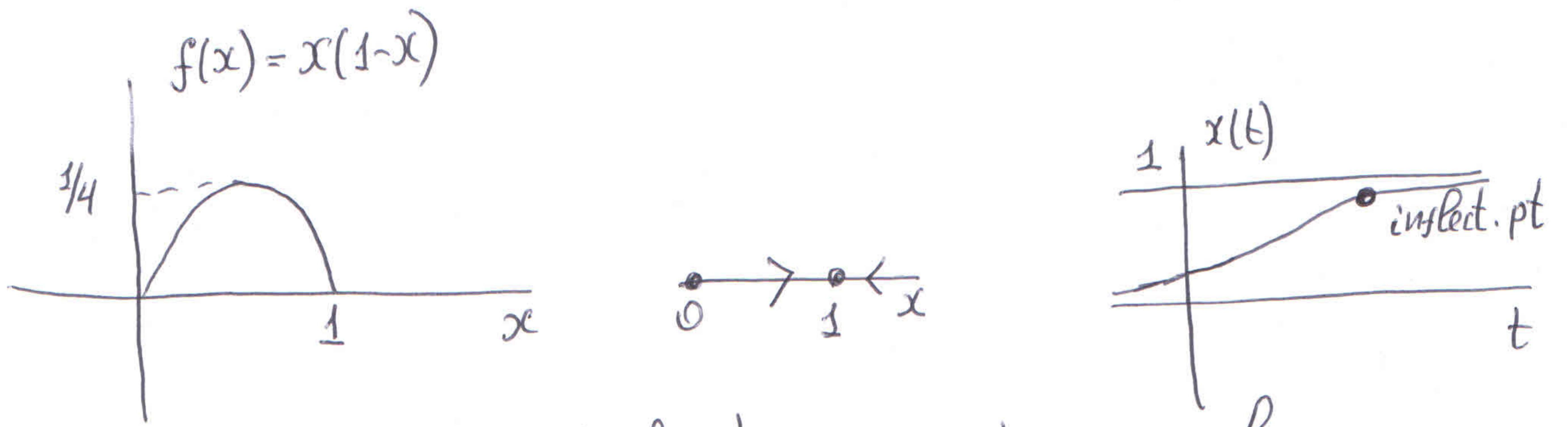


fig. 3.8 Multiplication of fishes in a lake (people do not catch fish)

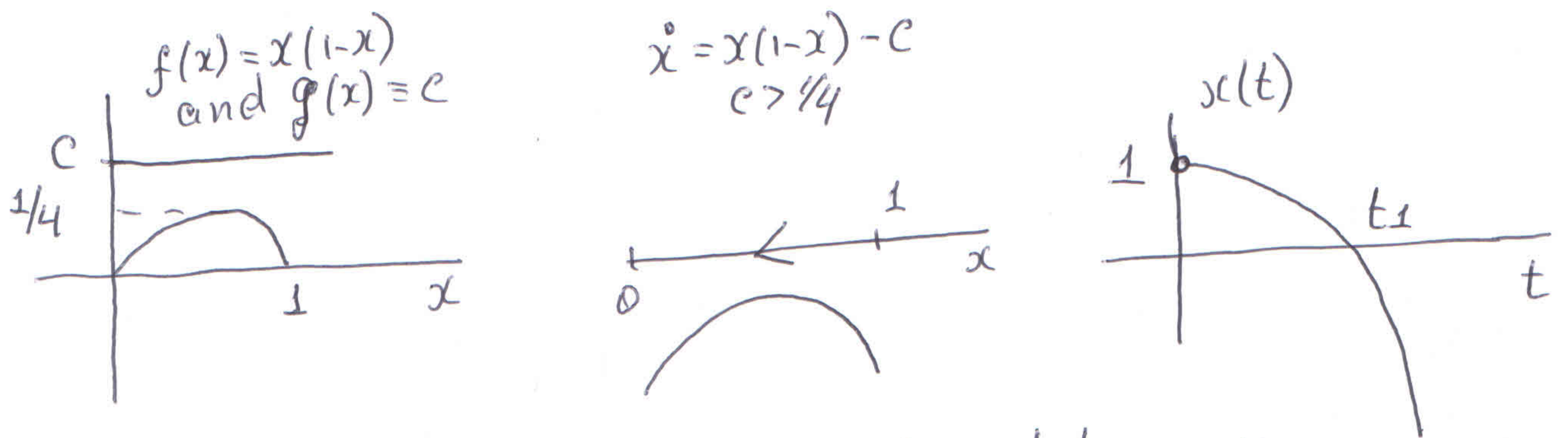


fig. 3.9. Rigid plan: to catch $c > 1/4$ fishes a year. At time t_1 No fishes in the lake.

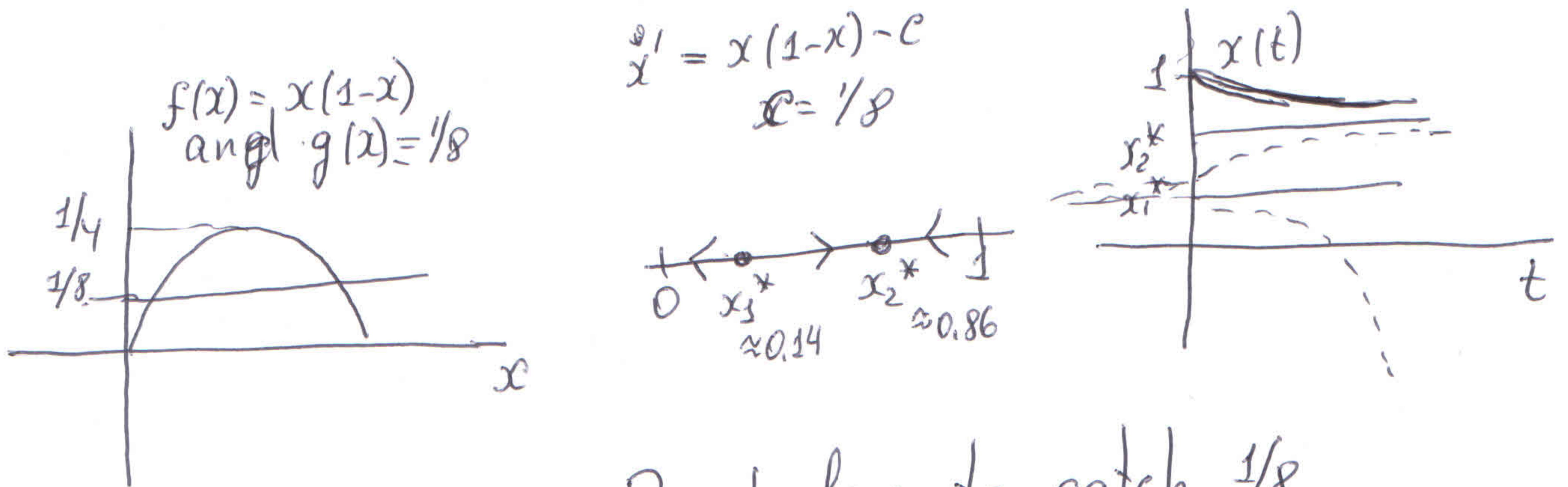


fig. 3.10. Rigid plan: to catch $1/8$ fishes a year. It works ∞ years. All the time there will be $\rightarrow x_2^*$ fishes in the lake.

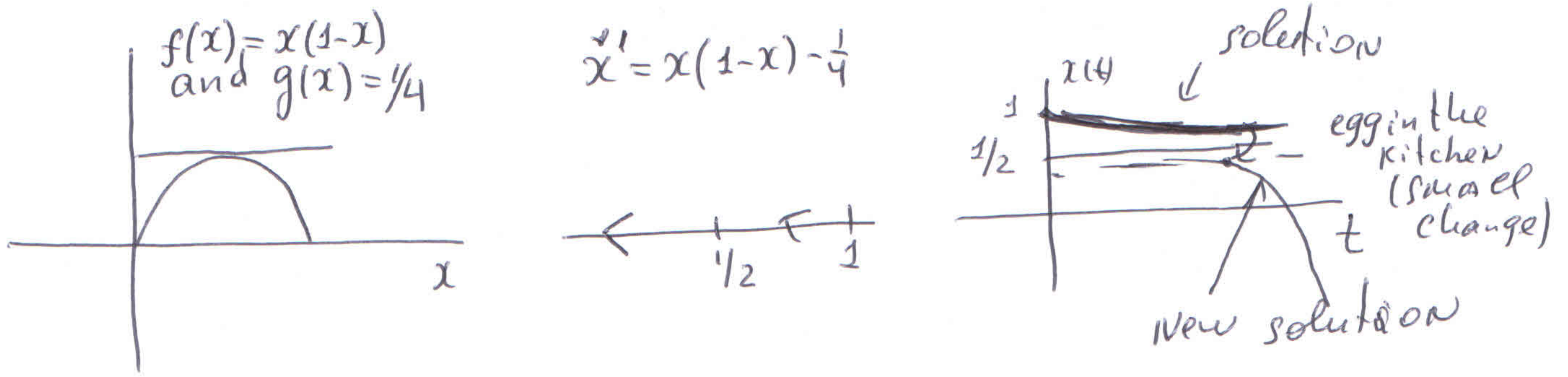


fig. 3.11. Rigid plan: to catch $1/4$ a year.
Small change and: catastrophe.

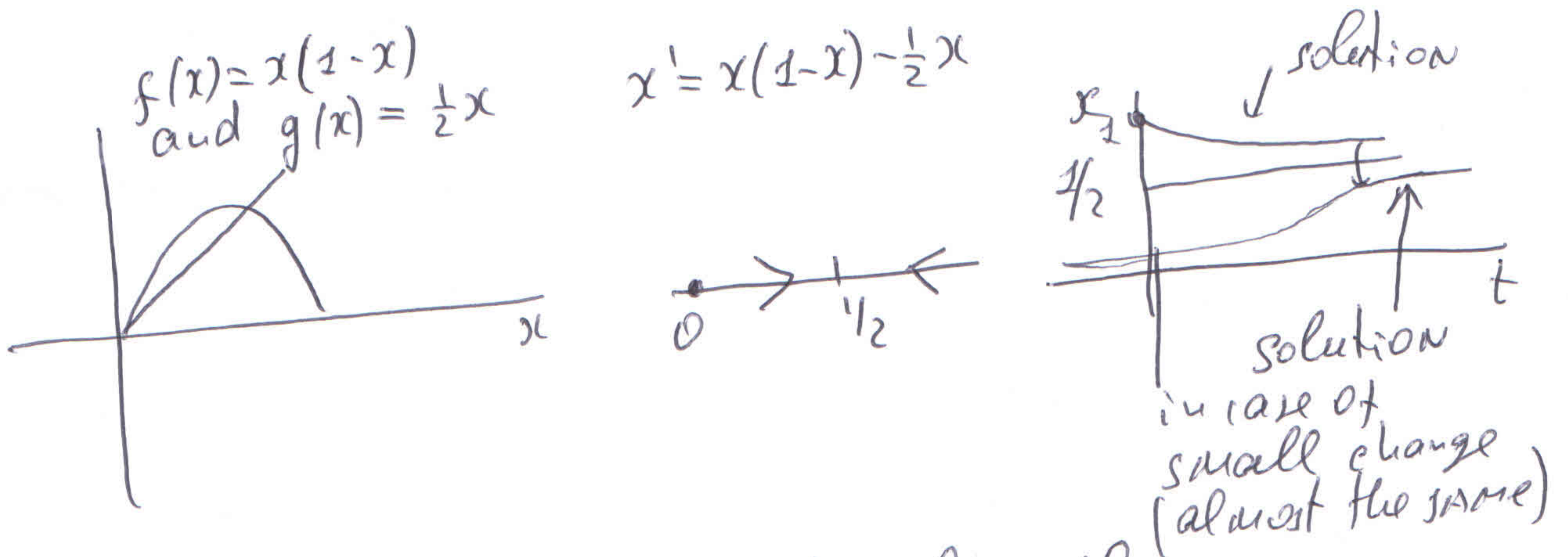


fig. 3.12. Optimal feedback

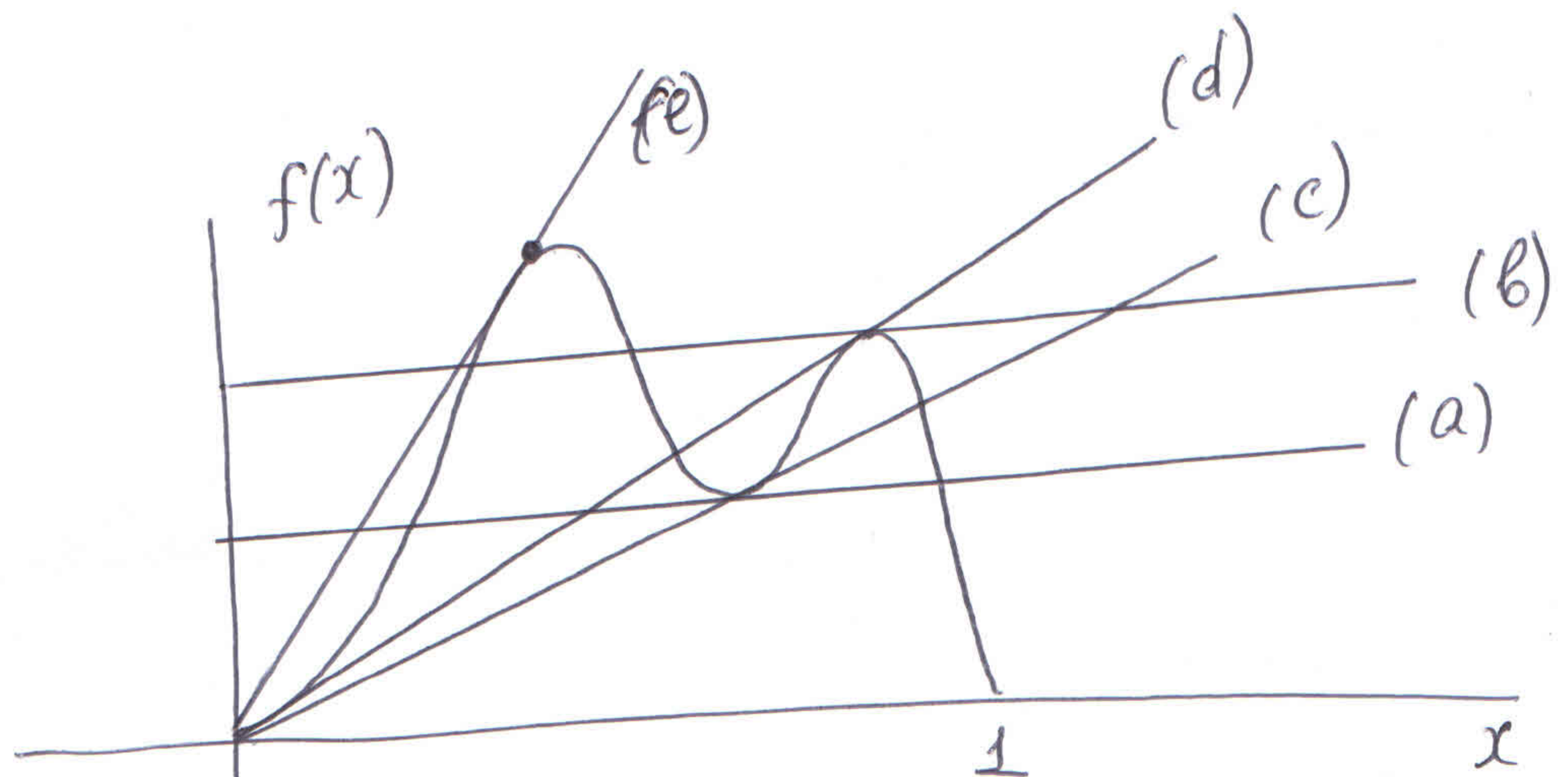


fig. 3.13. For exercise 7 (Ch. 3)