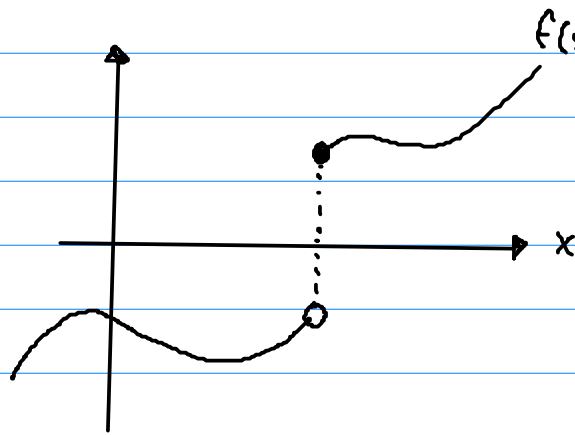
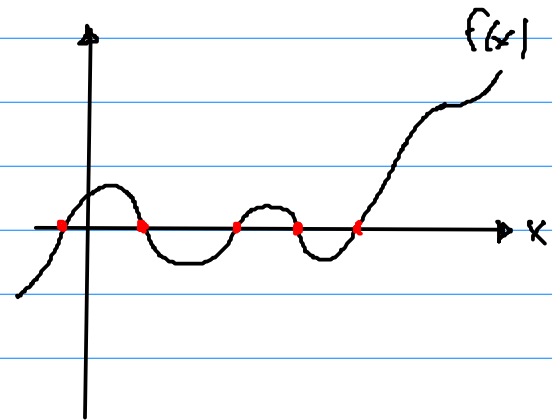


Remark: In general no existence nor uniqueness



$f$  not continuous



several solutions

Assume  $f$  continuous in the following...

## II.1.1 Fixed-point iterations and a few generalities

Our problem  $f(x) = 0$  can be written as

$$x = \phi(x)$$

for some  $\phi(x)$ . This is known as a fixed-point equation (FPE) and  $x^*$  satisfying

$$x^* = \phi(x^*)$$

as a fixed-point (FP).

Def.: A fixed-point iteration (FPI) is defined as

$$x^{(k+1)} = \phi(x^{(k)}), \quad k = 0, 1, 2, \dots$$