

## Exercises 2.5

### Exercise 2.5.1

- a. Show that the logistic function  $\sigma$  satisfies the inequality  $0 < \sigma'(x) \leq \frac{1}{4}$ , for all  $x \in \mathbb{R}$ .
- b. How does the inequality changes in the case of the functions  $\sigma_c$ ?

### Exercise 2.5.2

Let  $S(x)$  and  $H(x)$  denote