

Conversion from vertical to horizontal representation

Find the systems of cuts (=horizontal representations) of the following fuzzy sets of real numbers.

Exercise 1.1

$$\mu_A(x) = \begin{cases} 1/4 & \text{if } x = 12 \text{ or } x = 18, \\ 1/2 & \text{if } x \in \{13, 14, 17\}, \\ 1 & \text{if } x = 15 \text{ or } x = 16, \\ 0 & \text{otherwise.} \end{cases}$$

Exercise 1.2

$$\mu_B(x) = \begin{cases} 0 & \text{if } x \leq 0 \text{ or } x \geq 4, \\ \sqrt{x} & \text{if } 0 < x \leq 1, \\ 1 & \text{if } 1 < x \leq 2, \\ (4-x)/2 & \text{if } 2 < x < 4. \end{cases}$$