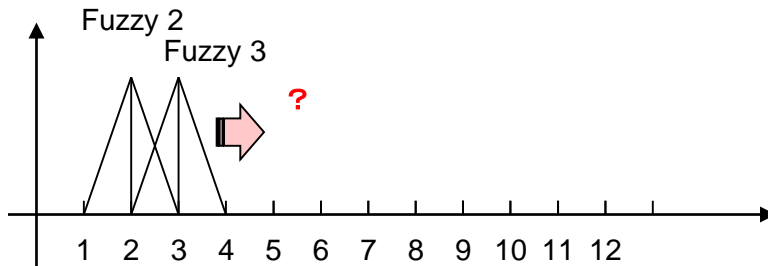


# Quizzes for lecture 9

(1) Find the complement set of A given in Example 5.1.

(2) Using the extension principle, find the membership function of “fuzzy 5”, when “fuzzy 2” and “fuzzy 3” are defined below.



(3) Below is a fuzzy rule for controlling a robot based on light sensors.

$R_s : \text{if } (x_1 = \text{VeryBright} \wedge x_2 = \text{VeryBright} \wedge$   
 $x_3 = \text{VeryDark} \wedge x_4 = \text{VeryDark})$   
 $\text{then}(y = \text{GoForwardQuickly})$

Suppose that the minimum and maximum values of each sensor are 0 and 1024. Try to define the membership functions for the linguistic values VeryBright and VeryDark.

