1. We want to compare two sensors based upon their detection level and gain settings. The following table of gain settings and sensor detection level with a standard item monitored provides typical membership values to represent the detection levels for each sensor.

|  |  |  |
| --- | --- | --- |
| Gain Settings | Sensor 1 detection Level | Sensor 2 Detection Level |
| 0 | 0 | 0 |
| 20 | 0.5 | 0.35 |
| 40 | 0.65 | 0.5 |
| 60 | 0.85 | 0.75 |
| 80 | 1 | 0.90 |
| 100 | 1 | 1 |

Find the membership functions for the two sensors. Find the complement, union, intersection and de Morgans’ law the two fuzzy sets. [12]