

Exercises from fuzzy algebras.

Exercise 4.1 *Decide whether the equality*

$$(\alpha \wedge \beta) \dot{\vee} (\alpha \wedge \bar{\beta}) = \alpha$$

holds for all α, β for the following choices of operations $\wedge, \dot{\vee}$:

1. $\wedge_{\mathbb{S}}, \dot{\vee}_{\mathbb{S}}$,

2. $\wedge_{\mathbb{P}}, \dot{\vee}_{\mathbb{P}}$,

3. $\wedge_{\mathbb{P}}, \dot{\vee}_{\mathbb{L}}$,

4. $\wedge_{\mathbb{L}}, \dot{\vee}_{\mathbb{P}}$,

5. $\wedge_{\mathbb{L}}, \dot{\vee}_{\mathbb{L}}$.