2: let fuzzy set satisfy eqe. (1) For all $s_1, s_2 \in R, \forall \lambda \in [0,1]$

To prove A is convex:

$$\Rightarrow A^{\propto} \; is \; convex$$

To prove $s_1, s_2 \in A^{\alpha} \Rightarrow \lambda s_1 + (1-\lambda) s_2 \in A^{\alpha}$

For all $s_1, s_2 \in A^{\alpha}$

$$A(s_1) \geq \alpha \; \& \; A(s_2) \geq \alpha$$

Form eq. (1)

$$A(\lambda s_1 + (1-\lambda) s_2) \geq \min[A(s_1), A(s_2)]$$
$$\ldots\ldots\ldots\ldots\ldots\ldots \geq \min[\alpha, \alpha] = \alpha$$
$$A(\lambda s_1 + (1-\lambda) s_2) \geq \alpha$$

From $A(s_1) \geq \alpha$ and $s \in A^{\alpha}$ then

$$s_1, s_2 \in A^{\alpha} \Rightarrow A(\lambda s_1 + (1-\lambda) s_2) \in A^{\alpha}$$

Therefore A^{α} is convex for all $\alpha \in [0,1]$

Then A is convex

Concept Fuzzy number