

# ISOMORPHISM

*Meaning: Isomorphism is a mathematical concept that denotes a one-to-one correspondence between two structures that preserves their operations and properties, indicating they are fundamentally equivalent.*

1. An isomorphism between two algebraic structures indicates that they are fundamentally the same in terms of their operations and properties.
2. In topology, an isomorphism can show that two different shapes can be transformed into each other without tearing or gluing.
3. The concept of isomorphism is essential in category theory, where it helps to compare different mathematical objects.
4. Researchers are exploring isomorphisms in graph theory to understand how different graphs can represent the same relationships.
5. In computer science, an isomorphism between data structures can simplify the process of data manipulation and retrieval.

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