Modern Algebra I: Group Theory

Definitions

Definition #1: An ***isometry*** is …

Definition #2: A ***symmetry*** is …

(2a) A ***rotation*** is a symmetry that preserves the clockwise orientation of the vertices.

(2b) A ***reflection (or flip)*** is a symmetry that reverses the clockwise orientation of the vertices.

Definition #3: Two symmetries f and g are ***equivalent*** if …

Definition #4: A ***binary operation*** is …

Definition #5: A ***group*** is …

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Definition #6: A ***subgroup*** is …

Definition #7: The ***centralizer of an element*** $a \in G$ is …

Definition #8: The ***center of a group*** G is …

Definition #9: (a) The ***order of an element*** $a \in G$ is …

(b) The ***order of a group*** G is …

Definition #10: A ***cyclic group*** is …

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Definition #11: Let $(G, \cdot)$ and $(H,*)$ be groups. An ***isomorphism*** is …

Definition #12: Let G be a group and H a subgroup of G.

The ***left coset of H in G*** is …

Similarly, the ***right coset of H in G*** is ...

The set of left cosets is denoted by …

Definition #13: A ***normal subgroup*** is …

Definition #14: Let G be a group and H a normal subgroup of G. The ***quotient group*** of G by H is …

Definition #15: Let $(G, \cdot)$ and $(H,*)$ be groups. A ***homomorphism*** from G to H is …