

SUBJECTS FOR BASIC NOTIONS QUIZ MONDAY DECEMBER 6

A is a subset of B.

relation between sets A and B.

Cartesian product of A and B.

one-to-one.

onto.

bijection.

X has the same cardinality as Y.

Equivalence relation.

Equivalence class.

Partition.

The partition associated to an equivalence relation.

The equivalence relation associated to a partition.

Binary operation.

H is closed under a binary operation \cdot .

(S, \cdot) is associative, commutative, has an identity element, has inverses.

(S, \cdot) is a group.

(S, \cdot) is an Abelian group.

(S, \cdot) and (S', \cdot') are isomorphic.

H is a subgroup of (G, \cdot) .

(G, \cdot) is a cyclic group.

g an element of G generates the group (G, \cdot) .

relatively prime.

greatest common divisor.

If G is a group, $g_i \in G$, all $i \in I$: definition of subgroup generated by $\{g_i \mid i \in I\}$.

finitely generated group G .

permutation group on n letters.

cycle.

orbit of an element in a permutation group.

disjoint cycles.

left regular representation.

right regular representation.
left and right coset of H in G .
index of H in G .
direct product of the groups G_0, \dots, G_n .
decomposable group.
image and inverse image under a map.
homomorphism, automorphism, inner automorphism.
kernel of a homomorphism.
 x conjugated by g .
normal subgroup.
factor group.
automorphism.
inner automorphism.
simple group.
 G -set
orbit of x in a G -set.
transitive G -set.
faithful G -set.
isotropy (stabilizer) subgroup in a G -set.
ring.
field.
integral domain.
zero divisor.
cancellation laws.
commutative ring.
ring homomorphism.
the ring of polynomials over a given ring R .
polynomial irreducible over a field F .