Black survey

The intent of this survey is to approximately determine the extent of the knowledge of the people in black. Next to each item, write a nonnegative integer less than or equal to 3, where each number roughly corresponds to the following:

0. You have no idea what this item is referring to and haven't heard of it.
1. You have heard of it, but have never used it or seen many uses of it.
2. You have used before several times this and/or have a pretty good idea what this is.
3. You know this quite well, and/or have used it or things related to it quite often.

Note that these are only rough guidelines,

Combinatorics

__ Binomial coefficients (Number of ways to choose k elements from an n element set).

__ Invariants/monovariants.

__ Expected values.

__ Inclusion-exclusion.

__ Probabilistic method.

__ Double counting/reversing the order of summation.

__ Extremal principle.

__ Burnside's lemma.

Analysis/Algebra

__ Vieta's formulas.

__ Polynomials.

__ Fundamental theorem of algebra.

__ Fields, rings, groups.

__ Convexity.

__ Cauchy Schwarz, AM-GM, Jensen, etc.

__ Supremums, infimums.

__ Calculus (in $\mathbb{R}$).

__ Generating functions.

Geometry

__ Similar triangles.

__ Coordinate bashing.

__ Complex bashing.

__ Cyclic quads.

__ Cross ratios.

__ Homothety.

__ Spiral similarity.

__ Inversion.

__ Radical axes.

__ Poles, polars.

Number theory

__ Working modulo n.

__ Diophantine equations

__ Fermat's little theorem.

__ Orders/primitive roots.

__ Quadratic residues/quadratic recieprocity.

- __ Cubic reciprocity.
- __ Biquadratic/quartic reciprocity.
- __ Eisenstein reciprocity.
- __ Artin reciprocity.

__ Chinese Remainder Theorem.

__ Multiplicativity.

- __ Dirichlet convolutions.
- __ Möbius inversion.

__ Euclidean algorithm.

__ Bezout's lemma.

__ Fundamental theorem of arithmetic in $\mathbb{Z}$ (unique factorization).

__ Extensions of $\mathbb{Z}$ ($\mathbb{Z}[i], \mathbb{Z}[\omega]$).

- __ Fundamental theorem of arithmetic in extensions of $\mathbb{Z}$.

__ Roots of unity.

- __ Cyclotomic polynomials.
- __ Automorphisms of $\mathbb{Q}(\zeta_n)$.

__ Hensel Lifting.

__ $\mathbb{Q}_p$.

__ Vieta jumping.

Miscellaneous

__ Infinite descent.

__ Set theory.

__ Induction.

__ Strong induction.