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.

___ 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.

___ Fermat's little theorem.

___ Orders/primitive roots.

___ 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.