

ARITHMETIC MIRROR SYMMETRY OF K3 SURFACES AND HYPERGEOMETRIC FUNCTIONS.

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Mirror symmetry predicts surprising geometric correspondences between distinct families of algebraic varieties. In some cases, these correspondences have arithmetic consequences. Among the arithmetic correspondences predicted by mirror symmetry are correspondences between point counts over finite fields. In particular, we explore closed formulas for the point counts for our alternate mirror families of K3 surfaces, their relation to their Picard-Fuchs equations and hypergeometric functions.

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