Orders and their discriminants.
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An ""order"" is a commutative ring of which the additive group is a finitely generated free abelian group, and an order is called ""reduced"" if its only element with square zero is zero. Examples include rings of integers in algebraic number fields, and integral group rings of finite abelian groups. Reduced orders are encountered in the study of lattices, and in fact they carry a natural lattice structure themselves. The discriminant of a reduced order is an integer that, up to sign, equals the square of the determinant of the corresponding lattice. The lecture is devoted to some basic but new properties of these discriminants.