Factor

`Factor[poly]` factorizes a polynomial over the integers.

`Factor[poly, Modulus->p]` factorizes a polynomial modulo a prime \( p \).

`Factor[poly, Variables->{x1, x2, ...}]` allows you to specify an ordering on the variables in `poly`. The time needed to do the factorization may depend on the ordering you specify. `Factor` works only with exact `Integer` or `Rational` coefficients, not with `Real` numbers. The exponents of variables need not be positive integers. `Factor` can deal with exponents that are linear combinations of symbolic expressions. See page 381. See also: `FactorTerms`, `Solve`, `Expand`, `Simplify`, `FactorInteger`. 