1.109: Vector module

A *vector module* is the set of vectors spanned by a number n of basis vectors with integer coefficients. The basis vectors should be independent over the integers, which means that any linear combination

$$\sum_i m_i a_i$$

with m_i integers is equal to zero if, and only if, all coefficients m_i are zero. The term Z-module is sometimes used to underline the condition that the coefficients are integers. The number of basis vectors is the *rank* of the vector module.