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Euclidean domain

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A *Euclidean domain* is an integral domain on which a Euclidean valuation can be defined.

Every Euclidean domain is a principal ideal domain, and therefore also a unique factorization domain.

Any two elements of a Euclidean domain have a greatest common divisor, which can be computed using the Euclidean algorithm.

An example of a Euclidean domain is the ring \mathbb{Z} . Another example is the polynomial ring $F[x]$, where F is any field. Every field is also a Euclidean domain.