Why

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Definition

Let $a, b \in \mathbf{Z}$. a is a *divisor* of b if there exists $k > 0$ so that $ak = b$.

If instead $b = ak + r$ where $r > 0$ and $r < a$, then we call r the *remainder* of dividing a into b.

Notation

We denote the remainder of dividing a into b by $b \mod a$.

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[1]Future editions will include.

Integer Divisors

Integer Arithmetic

Natural Additive Identity   Natural Multiplicative Identity

Arithmetic   Identity Elements

Integer Products   Natural Exponents   Operations

Integer Sums   Natural Products   Functions

Integer Numbers   Natural Sums

Equivalence Relations   Recursion Theorem

Peano Axioms   Relations

Natural Induction   Cartesian Products

Natural Numbers   Set Powers

Partitions   Intersection of Empty Set   Successor Sets   Unordered Triples

Set Intersections   Pair Unions   Ordered Pairs

Set Unions   Set Differences

Pair Intersections   Empty Set   Unordered Pairs

Set Specification

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Identities   Sets

Names

Letters   Objects

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