Glossary

Natural base The natural base is e; it refers to an exponential with a base e.

Natural logarithm A logarithm to the base e, written $\ln N$.

Natural numbers $\mathbb{N} = \{1, 2, 3, 4, 5, \cdots\}$, the positive integers, also called the *counting numbers.*

Negation A logical connective that changes the truth value of a given statement. The negation of p is symbolized by $\sim p$.

Negative of a conditional The negative of a conditional, $p \rightarrow q$ is found by

$$\sim (p \rightarrow q) \Leftrightarrow p \wedge \sim q$$

Negative number A number less than zero.

Negative sign The symbol " $-$ " when used in front of a number, as in -5. Do not confuse with the same symbol used for subtraction.

Neither . . . nor A logical operator for "neither p nor q," which is defined to mean $\sim (p \vee q)$.

Network (1) A linking together of computers. (2) A set of points connected by arcs or by line segments.

New states paradox When a reapportionment of an increased number of seats causes a shift in the apportionment of the existing states, it is known as the *new states paradox.*

***n*-gon** A polygon with n sides.

No *p* is *q* A logical operator for "no p is q," which is defined to mean $p \rightarrow \sim q$.

Nonagon A polygon with 9 sides.

Nonconformable matrices Matrices that cannot be added or multiplied because their dimensions are not compatible.

Non-Euclidean geometries A geometry that results when Euclid's fifth postulate is not accepted.

Nonrepeating decimal A decimal representation of a number that does not repeat.

Nonsingular matrix A matrix that has an inverse.

Nonterminating decimal A decimal representation of a number that does not terminate.

Normal curve A graphical representation of a normal distribution. Its high point occurs at the mean, it is symmetric with respect to this mean, and each side of the mean has an area that includes 34.1% of the population within one standard deviation, 13.6% from one to two standard deviations, and about 2.3% of the population more than two standard deviations from the mean.

Not A common translation for the connective of negation.

NOT-gate A logical gate that changes the truth value of a given statement.

Null set See *Set*.

Number A *number* represents a given quantity, as opposed to a *numeral*, which is the symbol for the number. In mathematics, it generally refers to a specific set of numbers — for example, counting numbers, whole numbers, integers, rationals, or real numbers. If the set is not specified, the assumed usage is to the set of real numbers.

Number line A line used to display a set of numbers graphically (the axis for a one-dimensional graph).

Numeral Symbol used to denote a number.

Numeration system A system of symbols with rules of combination for representing all numbers.

Numerator See *Rational number.*

Numerical coefficient See *Coefficient*.