



Differentiation Glossary

Term	Definition
Derivative	The rate of change of a function at a particular point. It represents the instantaneous rate of change of the function.
Limit	The value that a function approaches as the input approaches a particular point. It is a fundamental concept in calculus.
Differentiability	A function is differentiable at a point if it has a derivative at that point. Differentiable functions are continuous.
Continuity	A function is continuous at a point if its value at that point is equal to the limit of the function as the input approaches that point.
Concavity	The curvature of a function. A function is concave up if its graph is curved upwards, and concave down if its graph is curved downwards.
Optimization	The process of finding the maximum or minimum value of a function, subject to certain constraints.
Normal	A line that is perpendicular to the tangent line of a curve at a given point.
Maxima	The highest point or maximum value of a function over a given domain.
Minima	The lowest point or minimum value of a function over a given domain.
Point of Inflection	A point on the graph of a function where the function changes from being concave up to concave down, or vice versa.
Related Rates of Change	The study of how the rate of change of one quantity is related to the rate of change of another quantity.
Parametric Function	A function where the independent and dependent variables are both expressed in terms of a third, independent variable (the parameter).
Chain Rule	A rule for differentiating a composite function, where the inner function is differentiated first, and then the outer function is differentiated.
Product Rule	A rule for differentiating the product of two functions.
Quotient Rule	A rule for differentiating the quotient of two functions.