A picture containing text, font, line, screenshot

Description automatically generated

In [mathematics](https://en.wikipedia.org/wiki/Mathematics), a **closed-form expression** is a [mathematical expression](https://en.wikipedia.org/wiki/Expression_(mathematics)) that uses a [finite](https://en.wikipedia.org/wiki/Finite_set) number of standard operations. It may contain [constants](https://en.wikipedia.org/wiki/Constant_(mathematics)), [variables](https://en.wikipedia.org/wiki/Variable_(mathematics)), certain well-known [operations](https://en.wikipedia.org/wiki/Operation_(mathematics)) (e.g., + − × ÷), and [functions](https://en.wikipedia.org/wiki/Function_(mathematics)) (e.g., [*n*th root](https://en.wikipedia.org/wiki/Nth_root), [exponent](https://en.wikipedia.org/wiki/Exponent), [logarithm](https://en.wikipedia.org/wiki/Logarithm), [trigonometric functions](https://en.wikipedia.org/wiki/Trigonometric_functions), and [inverse hyperbolic functions](https://en.wikipedia.org/wiki/Inverse_hyperbolic_functions)), but usually no [limit](https://en.wikipedia.org/wiki/Limit_of_a_sequence), or [integral](https://en.wikipedia.org/wiki/Integral).

The set of operations and functions may vary with author and context.

Usually, if a function is allowed for closed form expressions, its [derivative](https://en.wikipedia.org/wiki/Derivative) can be expressed as a closed-form expression. So, by the [chain rule](https://en.wikipedia.org/wiki/Chain_rule), the derivatives may be removed from closed-form expressions. As the expression of a derivative may be much larger than that of the function, it is only a question of convenience whether derivatives are accepted in closed-form expressions.