

Cange of Variable

Replace a function $f(x)$ by $h(x) = f(g(x))$.

Example

Separation of Variable

If a differential equation of order 1 can be written in the form $(g(y))' = g'(y)y' = b(x)$, this can be solved by writing $y = g^{-1}(B(x))$.

Example Given the equation $e^y y' = x$. We can rewrite it to $e^y = \frac{1}{2}x^2 + c$ and inverting $y = \log(\frac{1}{2}x^2) + c$