

exploring Quarto and Latex

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the formula of Einstein is $E = mc^2$

Theorem 0.1 (Substitution Rule). *if $u = g(x)$ is a differentiable function whose range is an interval I and f is a continuous on I , then*

$$\int f(g(x)) dx = \int f(u) du.$$

Example 0.1.

1. $\int (1 - 4x)^{\frac{1}{2}} dx$

if we let $u = 1 - 4x$, then $du = -4dx$. we multiply the integrand by $\frac{-4}{-4}$. thus