

Exercise 1

Prove the following:

$$\int_0^x \int_0^{x_1} (x-t)^3 u(x_1) dt dx_1 = \frac{1}{4} \int_0^x (x-t)^4 u(t) dt$$

[TYPO: The integrand should be $(x_1 - t)^3 u(t)$.]