

Full name(s): _____ .

Questions

1. Evaluate each of the following integrals via substitution.

(a) $\int_0^1 (x+1)^4 dx$

(b) $\int_0^1 \frac{\ln(x+1)}{x+1} dx$

(c) $\int x^2 \cos(2x^3) dx$

(d) $\int \frac{x}{1+x^2} dx$

(e) $\int_0^1 \frac{e^{\tan^{-1}(x)}}{1+x^2} dx$

(f) $\int \csc(x) dx$

(g) $\int e^x e^{e^x} dx$

(h) $\int_{e^e}^{e^{e^e}} \frac{1}{x \ln(x) \ln(\ln(x))} dx$

(i) $\int_1^3 \frac{(2x+1) \ln(x^2+x)}{x^2+2x} dx$

(j) $\int \sin^5(x) \cos(x) dx$

(k) $\int \frac{\cos(\ln|5x|)}{x} dx$

(l) $\int \sin(\ln|\sin(x)|) \cot(x) dx$