

Math 102 — Substitution with definite integrals

Summary. Try each of the following problems together in a small group.

Problem 1. Find the following definite integrals using u -substitution and changing the limits of integration.

a. $\int_{-1}^2 \sqrt{x+2} \, dx$

b. $\int_0^\pi \cos(x+\pi) \, dx$

c. $\int_0^{\pi/2} e^{-\cos \theta} \sin \theta \, d\theta$

d. $\int_1^4 \frac{e^{\sqrt{x}}}{\sqrt{x}} \, dx$