Quiz 9

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November 11, 2022

Problem 1. Compute the following indefinite integrals:

(a) $\int \sec x (\sec x - 10 \tan x) \ dx$;

(b) $\int 6x^2 + \sqrt[3]{x^2} \ dx$.

Solution:

(a)
$$\int \sec x (\sec x - 10 \tan x) \ dx = \int \sec^2 x - 10 \sec x \tan x \ dx = \tan x - 10 \sec x + C.$$

(b)
$$\int 6x^2 + \sqrt[3]{x^2} \ dx = \int 6x^2 + x^{2/3} \ dx = 2x^3 + \frac{3}{5} x^{5/3} + C.$$