

MEMORIAL UNIVERSITY OF NEWFOUNDLAND

DEPARTMENT OF MATHEMATICS AND STATISTICS

ASSIGNMENT 1

MATHEMATICS 1001

WINTER 2024

Due: Monday, January 22nd, 2024 at 11:59pm. See the Gradescope Handout for submission information.

Note: You should complete the WebAssign problem set “Elementary Indefinite Integrals”, as well as Worksheet 1.1, before you work on this assignment.

1. Evaluate the following indefinite integrals.

(a) $\int x^{\frac{3}{2}} (x^2 - x^{-2}) dx$

(b) $\int [3 \csc^2(x) - 3 \cot^2(x)] dx$

(c) $\int \sec(u)[7 \cos(u) + 2 \tan(u)] du$

(d) $\int \frac{(9 + 2x)^{10}}{6} dx$

(e) $\int \frac{6}{(9 + 2x)^{10}} dx$

(f) $\int \left[\cosh(1 - 3t) - \csc^2\left(\frac{t}{5}\right) \right] dt$

(g) $\int \frac{e^{7x} + 6e^x}{2e^{4x}} dx$