

MEMORIAL UNIVERSITY OF NEWFOUNDLAND

DEPARTMENT OF MATHEMATICS AND STATISTICS

ASSIGNMENT 2

MATHEMATICS 1001

WINTER 2024

Due: Monday, January 29th, 2024 at 11:59pm. See the Gradescope Handout for submission information.

Note: You should complete the WebAssign problem set “Indefinite Integrals by u -Substitution”, as well as Worksheet 1.2, before you work on this assignment.

1. Use u -substitution to evaluate the following indefinite integrals.

(a) $\int \frac{6 \tan(\sqrt{3t})}{\sqrt{3t}} dt$

(b) $\int x^5(3 - x^2)^7 dx$

(c) $\int \frac{10x^2 - 8x}{5x^3 - 6x^2} dx$

(d) $\int \frac{3x^4 - x^2 + 6x}{x^3 + 2} dx$