MEMORIAL UNIVERSITY OF NEWFOUNDLAND

DEPARTMENT OF MATHEMATICS AND STATISTICS

TEST 1

MATHEMATICS 1001

OCTOBER 20TH, 2025

Name

MUN Number

[15] 1. Evaluate each of the following integrals.

(a)
$$\int \frac{2x+1}{8x^2+8x+5} \, dx$$

(b)
$$\int \frac{8x^2 + 8x + 5}{2x + 1} \, dx$$

(c)
$$\int \frac{8x^2 + 8x + 5}{2x} dx$$

(a)
$$\int \frac{\tan(\cot(x))}{\sin^2(x)} dx$$

(b)
$$\int \cos\left(\sqrt{x}\right) dx$$

$$(c) \int \frac{1}{\sqrt{6x - x^2 - 5}} \, dx$$

$$(d) \int \frac{x^2}{9x^6 + 1} \, dx$$

(e)
$$\int x^2 \ln^2(x) \, dx$$

(f)
$$\int \arctan\left(\frac{1}{x}\right) dx$$