

Name

MUN Number

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

(a) $\int \frac{x}{\sqrt{16x^2 - 25}} dx$

(b) $\int \frac{1}{x\sqrt{16x^2 - 25}} dx$

(c) $\int xe^{4x-5} dx$

- [25] 2. Evaluate **FIVE** of the following integrals. (If you evaluate all six, only your best five will count towards your mark.)

(a) $\int \frac{\sin(5x)}{\sqrt{1 - \sin^2(5x)}} dx$

(b) $\int \frac{1}{9x^2 + 12x + 8} dx$

(c) $\int x^3 \sin(2x^2) dx$

$$(d) \int x^2 \ln^2(x) dx$$

Recall $\ln^2(x) = [\ln(x)]^2$

$$(e) \int \frac{1}{x\sqrt{9 - \ln^2(x)}} dx$$

$$(f) \int \frac{4x^3 - 8x^2 + 5x - 4}{2x^2 + 1} dx$$