Name	MUN Number

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

(a) $\displaystyle\int \frac{4x}{\sqrt{13-x^2}}\,dx$

(b) $\displaystyle\int \sqrt{4x}(13-x^2)\,dx$

(c) $\displaystyle\int \frac{1}{\sqrt{13+4x-x^2}}\,dx$

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

(a) $\displaystyle\int \frac{1}{x[\ln^2(x) + 4]}\, dx$

(b) $\displaystyle\int \arcsin(x)\, dx$

(c) $\displaystyle\int \frac{6x^3 + x^2 - 2x - 8}{2x - 1}\, dx$

(d) $\displaystyle\int \frac{\sin(3x) + 1}{\cos(3x)}\, dx$

(e) $\displaystyle\int x^5 \cos(x^3)\, dx$

(f) $\displaystyle\int x^2 e^{7x}\, dx$