

**Ryerson University**  
**Lab 3 - MTH 240 - Winter 2014- Week Jan 27-31**

1. Problem 29 Section 7.5 Evaluate the integral  $\int \ln(x + \sqrt{x^2 - 1})dx$
2. Problem 39 Section 7.5 Evaluate the integral  $\int \frac{\sec \theta \tan \theta}{\sec^2 \theta - \sec \theta} d\theta$
3. Problem 22 Section 7.8 Determine whether the integral is convergent or divergent. If it is convergent, find its value.

$$\int_{-\infty}^{\infty} x^3 e^{-x^4} dx$$

4. Problem 24 Section 7.8 Determine whether the integral is convergent or divergent. If it is convergent, find its value.

$$\int_1^{\infty} \frac{e^x}{e^{2x} + 3} dx$$

5. Problem 28 Section 7.8 Determine whether the integral is convergent or divergent. If it is convergent, find its value.

$$\int_2^3 \frac{dx}{\sqrt{3-x}}$$

**NO QUIZ DURING THIS LAB**