

## MATH 221 EXAM 1

Wednesday June 18, 2014

Instructor's Name: \_\_\_\_\_ Name: \_\_\_\_\_

No books are allowed. Use the back page as a sketch paper. For full credit show your work in detail.

Total:40	# 1	# 2	# 3	# 4	# 5

1 (12 pts).

- a. Evaluate  $\int x^2 e^x dx$

- b. Evaluate  $\int_1^e \frac{\ln x dx}{x^2}$

**2 (10 pts).**

- a. Evaluate  $\int \frac{x}{\sqrt{1-x^2}} dx$

- b. Evaluate  $\int \frac{x^2}{\sqrt{1-x^2}} dx$

**3 (8 pts).** Evaluate  $\int \frac{\cos^3(\ln x) \sin^2(\ln x)}{x} dx$

4 (5 pts). Evaluate  $\int \frac{dz}{z^3 \sqrt{z^2 - 4}}$

**5 (5 pts).** Evaluate  $\int \tanh(x)\operatorname{sech}^2(x)dx$