

Name: _____

/ 25

30 minutes maximum. No aids (book, calculator, etc.) are permitted. Show all work and use proper notation for full credit. Answers should be in reasonably-simplified form. 25 points possible.

1. (5 points per part) Evaluate the following integrals and antiderivatives.

(a) $\int_1^e x \ln(x) dx$

(b) $\int x^2 e^{3x} dx$

2. (5 points per part) Evaluate the following integrals and antiderivatives.

(a) $\int \sin^3(x) \cos^4(x) dx$

(b) $\int \tan^6(x) \sec^4(x) dx$

(c) $\int_{-\pi/2}^{\pi/2} \cos^3(x) dx$