Math 212 SAMPLE MIDTERM EXAM 1 No Electronics

Name: _____ EMPLID: _____

1. (5 points) Evaluate $\int_1^2 \left(\frac{x}{2} - \frac{2}{x}\right)\, dx$

1. _____

2. (5 points) Evaluate $\int_0^{\frac{3\pi}{2}} |\sin x|\, dx$.

2. _____

3. (5 points) Evaluate $\int e^x(2 + 3e^x)^9\, dx$.

3. _____

4. (5 points) Evaluate $\int \frac{dx}{x^2\sqrt{x^2+9}}$.

4. _____

5. (5 points) (True/False) $\int_0^4 \frac{x}{x^2-1}\,dx = \frac{1}{2}\ln 15$.

5. _____

6. (5 points) Evaluate $\int e^{\sqrt{x}}\,dx$. Hint: First make a substitution and then use integration by parts.

7. (5 points) Evaluate $\int_1^2 w^5 \ln w\,dw$.

7. _____

8. (5 points) Evaluate $\int e^y \sin \pi y\,dy$.

8. _____

9. (5 points) Evaluate $\int \tan^3 t \, dt$.

9. _____

10. (5 points) Evaluate $\int x \cos^5(x^2) \, dx$.

10. _____

11. (5 points) Evaluate $\int \frac{x^2+8x-3}{x^3+3x^2} \, dx$.

11. _____

12. (5 points) Evaluate $\int_0^{2\pi} \theta^2 \sin 2\theta \, d\theta$.

12. _____