

MATH 2460 EXAM 2

NAME _____ GRADE _____ OUT OF 15 PTS

Answer the following questions (**2pts each**) correctly (**NO** decimal answer!) for a full credit.

1. Evaluate $\int_0^1 x e^x dx$ (**show** work for a full credit!)

2. Find the length of the curve $y = \frac{2}{3}(x^2 + 1)^{3/2}$ over $[0, 3]$.

3. Set up and evaluate the definite integral for the area of the surface generated by revolving the curve $y = \frac{1}{3}x^3$ about the x -axis, with $0 \leq x \leq 3$. **Show** all your work to get a full credit!

4. Evaluate $\int_{-2\pi}^{2\pi} (\sin^2 x + 1) dx$. (**show** work for a full credit!)

5. Evaluate $\int \frac{dx}{x^2\sqrt{x^2-9}}$ (**show** work for a full credit!)

6. Evaluate $\int \sqrt{4-x^2} dx$ (**show** work for a full credit!)

7. Evaluate $\int \frac{1}{x^2 - 5x + 6} dx$ (**show** work for a full credit!)

8. Evaluate $\int \frac{2x + 1}{x^2 - 7x + 12} dx$ (**show** work for a full credit!)