Math 252 **Exam 2** Name_____

Please work the problems below on the provided paper. Work neatly, don't write too small and don't crowd your work together. Make it easy for me to follow your work. If I have to spend too much time trying to figure our what you are doing, you will lose points.

1. Use integration by parts to evaluate $\int t\cos(3t)\,dt$.

2. Use a trig substitution to find the integral below. Your final answer should not contain any trig or inverse trig functions.

$$\int \frac{1}{x^2\sqrt{4-x^2}}\,dx$$

3. Use partial fractions to find

$$\int \frac{x^2-1}{x^3+x}\,dx$$

4. Evaluate $\int \sin(2x)\tan(x)\,dx$

5. Evaluate $\int \frac{4x^3-2x^2+6x-3}{2x^2+3}\,dx$