Test Total

Name _____

Final Exam **Honors Calculus II** **Drs. Kreider and Norfolk**
May 5, 2008 **For full credit, show your work and use correct notation**

1. Find $g'(4)$, where g is the inverse of $f(x) = x^7 + x^5 + x^3 + 1$.

1: 10 pts

2. Evaluate $\frac{d}{dx}\left(\arctan(x^3 - 2x^{-1})\right)$. Show your work.

2: 10 pts

3. Evaluate $\lim_{x \to \infty} (\ln x)^{1/x}$. Show your work.

3: 10 pts

Pg 1: 30

4. Evaluate $\int xe^{-5x}\,dx$. Show your work.

4: 10 pts

5. Evaluate $\int \frac{1}{x\sqrt{x^2-4}}\,dx$. Show your work.

5: 10 pts

Pg 2: 20

Name _____

6. Evaluate $\int \frac{x+2}{x(x^2+1)}\,dx$. Show your work.

6: 10 pts

7. Evaluate the improper integral $\int_{-1}^{0} \frac{1}{\sqrt{1-x^2}}\,dx$. If the integral diverges, state so explicitly. If the integral converges, state its value. Show your work.

7: 10 pts

Pg 3: 20