Name _____

Homework 5
section 7.4

Evaluate each of the following integrals. To receive credit, you must actually perform the integration, not simply use a table of integrals. The exception being that you may use the formula for $\int \sin^2 x\, dx$ or $\int \cos^2 x\, dx$ given on the handout without justification.

1. (5) $\displaystyle\int \frac{4x^2 - 5x - 15}{x^3 - 4x^2 - 5x}\, dx$ Write your answer as $\ln(f(x)) + C$ for some function $f(x)$.

2. (3) $\displaystyle\int \frac{1}{\sqrt{4+t^2}}\,dt$

3. (2) $\displaystyle\int \frac{x}{x^2+9}\,dx$

4. (5) $\displaystyle\int \frac{x^5 + x^4 + 2x^3 + 2x^2 + 2x - 1}{x(x^2+1)^2}\, dx$

5. (6) $\displaystyle\int_{\sqrt{3}}^{2} \frac{6\sqrt{3}}{x^3\sqrt{x^2-3}}\,dx$