

MATH 2
PROBLEM OF THE WEEK 5
 Due Thursday, February 6th, 2003 before the quiz.

Please show all your work!

Name: _____

Fill in the following table with the technique you'd use to solve the problem: either simplifying, by parts, partial fractions or substitution. DO NOT SOLVE THE PROBLEMS, just tell us what method would be used to solve it. If you think there are several techniques involved, tell us the one that is most essential to the problem.

$\int \frac{2x+5}{x-3} dx$		$\int \frac{\sin x - \cos x}{\sin x + \cos x} dx$	
$\int x^3 \ln x dx$		$\int \frac{x}{(x+2)^2} dx$	
$\int x \sin^{-1} x dx$		$\int \frac{x^3 + x + 1}{x^4 + 2x^2 + 4x + 8} dx$	
$\int \frac{\cos x}{1 + \sin^2 x} dx$		$\int \sin^2 x \cos x dx$	
$\int \frac{x}{\sqrt{16-x^4}} dx$		$\int \frac{x^4}{x^{10} + 16} dx$	
$\int \frac{x}{x^2 + 3x + 2} dx$		$\int x \sec x \tan x dx$	
$\int \frac{2 \sin x \cos x}{\sqrt{9 - \cos^4 x}} dx$		$\int \sqrt[3]{x}(1 - \sqrt{x}) dx$	
$\int t^3 e^{-2t} dt$		$\int x \sqrt[3]{x+4} dx$	
$\int \tan^4 x \sec^2 x dx$		$\int (1 + \sqrt{x})^3 dx$	
$\int x \sin x^2 dx$		$\int x \sin x dx$	