Math 166: Honors Calculus II Name:_____
Quiz 4 *Feb. 17, 2000*

1. Give the general form of the partial fraction decomposition of

$$\frac{x^7 + x^3 + 1}{(x^4 - 1)(x^2 + 1)(x + 1)^2}$$

(Do not solve for the constants.)

2. Use an appropriate substitution to transform

$$\int \frac{1 + \sin(x)}{2 + \sin(x)}\, dx$$

into an integral of a rational function of u.
(Simplify as much as possible).

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