Math 166: Honors Calculus II   Name:_____

Quiz 4   *Feb. 15, 1996*

1. Integrate $\displaystyle\int \sin^{-1}(x)\, dx$

2. Integrate $\displaystyle\int \frac{x}{\sqrt{4 - 2x - x^2}}\, dx$.

   (Hint: Think of the numerator as $-\dfrac{1}{2}(-2x - 2) - 1$.)

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

$$\frac{x^3 + 2x + 1}{(x - 2)(x^2 + 3x + 4)^2(x + 5)^3}$$

(Do not solve for the constants).

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