TECHNICAL CALCULUS

Exam 2

March 15, 1994

1. $\int x \ln x dx =$

2. $\int x arctg(x) dx =$

3. $\int \frac{x^2}{\sqrt{x-2}} dx =$

4. Find the area bounded by $y = \frac{1}{x^2\sqrt{x^2-1}}$, $x = \sqrt{2}$, $x = \sqrt{5}$ and $y = 0$.

5. $\int \frac{x^2+3}{x^2+3x} dx =$

6. $\displaystyle\int \frac{dx}{x^2(x^2-1)} =$

7. $\displaystyle\int \frac{dx}{x^2(x^2+1)} =$

8. $\displaystyle\int_{-\infty}^{\infty} \frac{dx}{(x^2+a^2)^{3/2}} =$

9. $\displaystyle\int x\sqrt{x-4}dx =$

10. $\displaystyle\int \frac{dx}{x^2+2x+2} =$