MTH 1126 - Test #1

Spring 2005

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Instructions.   Show CLEARLY how you arrive at your answers.

1. Compute: $\int \sec\left(x^3\right) \tan\left(x^3\right) x^2 \, dx =$

2. Use the "$f - g$" method to compute the area bounded by the graphs of $f\left(x\right) = 2x^2 - 4$ and $g\left(x\right) = x^2$.

3. Compute: $\int \left(2x^5 - 8\right)^{15} 3x^4 \, dx =$

4. Find the area bounded by the graphs of $f(x) = x^2 - 2$ and $g(x) = 2x + 1$. (Partition the proper interval, build the Riemann Sum, derive the appropriate integral.)

5. Compute: $\int_{-1}^{1} \left(2x^3 + 5\right)^3 x^2 dx =$