

Department of Mathematics
The Ohio State University

Winter Quarter 2005
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Math 152A : Calculus and Analytic Geometry II
Gateway Exam #0 (SAMPLE)

Name: _____ Social Security Number: _____

Recitation Instructor: _____ Recitation Hour: _____

Find the following indefinite integrals. *Circle your final answer.*

Be very careful with notation, signs, parentheses, etc. **NO PARTIAL CREDIT** will be given.

*Note: Because you will only have 48 minutes for the actual Gateway, you should attempt to finish these sample problems in 48 minutes or less.

1. $\int \frac{1}{\sqrt[3]{x}} (x^\pi - x^{-\pi}) dx$

2. $\int \frac{1}{t(\ln t)^2} dt$

3. $\int \frac{7p^2 + 20p + 16}{p^3 + 4p^2 + 4p} dp$

4. $\int x\sqrt{2x+3} dx$

5. $\int \theta^3 \cos(\theta^2) d\theta$

6. $\int \frac{w^3 + 5w^2 + 7w - 11}{w^2 + 6w + 13} dw$