Name _____ Class Time _____

MATH 104 - QUIZ # 1
Due Friday, Feb 21 at 2PM
Covers Sections 7.2 - 7.5 of the textbook
Time: 45 minutes

Please show all work. Books, notes, calculators, are not permitted on this quiz. As part of your obligations under the Honor Code, do not discuss this quiz with anyone until after the Friday 2PM deadline.

WRITE OUT AND SIGN THE PLEDGE:

I pledge my honor that I have not violated the Honor Code during this examination.

1. *(10 points)* Find $\int \dfrac{e^{1/x}}{x^3}\, dx$.

2. *(10 points)* Find $\int_0^{\pi/2} \dfrac{\cos x}{2 - \cos^2 x}\, dx$. (Hint: Use the identity $\sin^2 x + \cos^2 x = 1$.)

3. *(10 points)* Find $\displaystyle\int 3x^2 \arctan x^3 \, dx$.

   Note: You may be used to calling the inverse tangent function $\tan^{-1}$ instead of arctan. Both notations are standard. So $\arctan x^3$ means exactly the same as $\tan^{-1}(x^3)$.

4. *(10 points)*   Find $\displaystyle\int_1^2 \frac{\ln x}{(x-3)^2}\, dx.$

5. *(10 points)*   Find $\displaystyle\int \frac{x^3}{x^2 + 2x + 5}\,dx.$