**NAME**_____ **QUIZ III Due: Friday, Oct. 23**

*please print clearly* (1 point) **MATH 173 25 points**

Open book, open notes, but you must do your own work. In particular, no "internet" help.
To receive credit, show all appropriate work.
Neatness, clarity and quality of work will be worth an unspecified number of points.
**Simplify! Simplify! Simplify!**
All problems are 6 points each.

1. Find the area of the surface generated by revolving the curve $y = \sqrt{4x-3},\ 2 \le x \le 6$, about the $x$-axis.

2. $\int \left(\cos x + \sec x\right)^2 \, dx$

3. For the following integral, graph its integrand and then use symmetry and FTC to find its value:

$$\int_0^{3\pi} \left|\cos(3x/2)\right| \, dx$$

4. $A = \int (4x^3 - 2)\sin(2x) \, dx$

Extra Credit (5 points) Do your **very best** work on a separate sheet of paper.

$$\int e^{2x}\cos(e^x) \, dx$$

Comment: $\int \cos(e^x)dx$ does not have an elementary anti-derivative.