First Name:_____

Last Name:_____

Additional practice (don't include your solutions here):

1. Find the area of the surface obtained by revolving $y = \sqrt{x}$, for $x \in [0, 1]$, about the x-axis.

2. Verify that $x = Ce^{-t} + De^{2t}$ is a solution to $x'' - x' - 2x = 0$.

3. Find the solution from Problem 2 that satisfies $x(0) = 3$ and $x'(0) = -2$.

4. Solve $y' = y^3$ when $y(0) = 1$. (Hint: $\dfrac{1}{y'} = \dfrac{dx}{dy}$.)

5. Solve $\dfrac{dx}{dt} = x\sin(t)$ for $x(0) = 1$.

1. Find the area of the surface obtained by revolving $y = x^2$, for $x \in [0, 1]$, about the y-axis.

2. Find the area of the surface obtained by revolving $x = 1 + 2y^2$, $1 \leq y \leq 2$, about the x-axis.