Math 241 Worksheet 15 (two-sided)

Name: _____ Section (circle one): **3** **4**

1. Use the substitution $u = \sqrt{x}$ to find $\int \frac{\sin(\sqrt{x})}{\sqrt{x}}\, dx.$

2. Use an appropriate substitution to find $\int \frac{\sin(x)}{\sqrt{\cos(x)}}\, dx$

3. Find $\int_0^2 x^2\sqrt{x^3+1}\,dx$

4. Set up a definite integral that gives the area of the region bounded by the curves $y = x^2$ and $y = 2 - x$. Sketching the curves might help. <u>You do not have to evaluate the integral.</u>