Math 131

Worksheet 3 – April 23, 2009

Name _____

1. Evaluate the following indefinite integrals, using substitution:

   (a) $\int \sqrt{x+2}\,dx$

   (b) $\int y^2 \cos y^3\,dy$

   (c) $\int \dfrac{\ln x}{x}\,dx$

   (d) $\int \dfrac{\ln x^3}{x}\,dx$

   (e) $\int \dfrac{(\ln x)^3}{x}\,dx$

   (f) $\int e^x \sqrt{e^x - 1}\,dx$

   (g) $\int \dfrac{x}{1-x}\,dx$

   (h) $\int \dfrac{\sin\sqrt{x}\, e^{\cos\sqrt{x}}}{\sqrt{x}}\,dx$

2. Which of the following definite integrals represent areas?

   (a) $\int_0^3 |\sin x|\,dx$

   (b) $\int_0^3 \sin x\,dx$

   (c) $\int_0^3 x^2\,dx$

3. Find the area between $\sin x$ and the x-axis for $0 \le x \le 2\pi$.