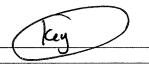
Name:



Please box your answers. Turn this in at the beginning of class on Wednesday Feb. 23, 2011. Attach an extra page where you show all work clearly and in order. If you do not show work you will recieve no credit.

8 1. Evaluate the following.

(a)
$$\int \theta 3^{\theta} d\theta$$
.

A.
$$\left(\frac{\theta}{\ln(3)} + \frac{1}{(\ln(3))^2}\right) 3^{\theta} + C$$

B.
$$\left(\frac{\theta-1}{\ln(3)}\right)3^{\theta}+C$$

C.
$$\left(\frac{\theta+1}{\ln(3)}\right)3^{\theta}+C$$

D.
$$\left(\frac{\theta}{\ln(3)} - \frac{1}{(\ln(3))^2}\right) 3^{\theta} + C$$

(b)
$$\int \sec^2(x) \tan(x) dx.$$

$$A. \frac{1}{2} \sec^2(x) + C$$

A.
$$\frac{1}{2}\sec^2(x) + C$$

B.
$$\frac{1}{2}\cos^2(x) + C$$

C.
$$tan(x) sec(x) + C$$

D.
$$\tan^2(x) + C$$

(c)
$$\int \tan^{-1}(y)dy.$$

A.
$$y^2 \tan^{-1}(y) + \frac{\ln(y^2+1)}{2} + C$$

B.
$$y \tan^{-1}(y) - \frac{\ln(y^2+1)}{2} + C$$

C.
$$y \tan^{-1}(y) - \frac{\ln(y^2+1)}{4} + C$$

D.
$$y \tan^{-1}(y) - \frac{(\ln(y^2+1))^2+1}{2} + C$$

(d)
$$\int e^x \cos(x) dx$$

(d)
$$\int e^x \cos(x) dx.$$

$$A. \frac{e^x \cos(x) + e^x \sin(x)}{2} + C$$

B.
$$\frac{e^x \cos(x) - e^x \sin(x)}{2} + C$$

C.
$$\frac{-e^x \cos(x) - e^x \sin(x)}{2} + C$$

D.
$$\frac{-e^x \cos(x) + e^x \sin(x)}{2} + C$$

(e)
$$\int \sin^2(x) \cos^3(x) dx.$$

A.
$$\frac{\sin^3(x)}{3} + \frac{\sin^5(x)}{5} + C$$

B.
$$\frac{\cos^3(x)}{3} + \frac{\cos^5(x)}{5} + C$$

C.
$$\frac{\sin^3(x)}{3} - \frac{\sin^5(x)}{5} + C$$

D.
$$\frac{\cos^3(x)}{3} - \frac{\cos^5(x)}{5} + C$$

(f)
$$\int \ln(x) dx$$
.

A.
$$ln(x) - x + C$$

B.
$$x \ln(x) + x + C$$

C.
$$x \ln(x) - \frac{x^2}{2} + C$$

D.
$$x \ln(x) - x + C$$

(g)
$$\int \tan^2(x) dx$$
.

A.
$$sec(x) - x + C$$

B.
$$\sec^2(x) + C$$

C.
$$\tan(x) - x + C$$

D.
$$tan(x) + x + C$$

(h)
$$\int \sin^2(x) dx$$
.

A.
$$\frac{x}{2} + \frac{\sin(2x)}{4} + C$$

$$B. \ \frac{x}{2} - \frac{\sin(2x)}{4} + C$$

$$C. \ \frac{x}{2} - \frac{\sin(2x)}{2} + C$$

D.
$$\frac{x}{4} - \frac{\sin(2x)}{4} + C$$