Math 222 Spring 2011
2/11/2011
Quiz #4

Name: Key

Please box your answers. Turn this in at the begnning 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. $\frac{1}{2}\sec^2(x) + C$

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

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