MATH 230 NAME:
7.2

Directions: Show all work on a separate sheet of paper for full credit.

1. $\int \sin^3(\theta)\cos^4(\theta)\,d\theta$ $\frac{1}{7}\cos^7\theta - \frac{1}{5}\cos^5\theta + C$

2. $\int_0^{\pi/2} \sin^5(x)\,dx$ $\frac{8}{15}$

3. $\int_0^{\pi/2} \cos^2(\theta)\,d\theta$ $\frac{\pi}{4}$

4. $\int t\cos^5(t^2)\,dt$ $\frac{1}{10}\sin^5(t^2) - \frac{1}{3}\sin^3(t^2) + \frac{1}{2}\sin(t^2) + C$

5. $\int \tan(x)\sec^3(x)\,dx$ $\frac{1}{3}\sec^3 x + C$

6. $\int_0^{\pi/4} \sec^6(\theta)\tan^6(\theta)\,d\theta$ $\frac{316}{693}$

7. $\int \frac{1-\tan^2 x}{\sec^2 x}\,dx$ $\frac{1}{2}\sin(2x) + C$

8. $\int \cot^5(\theta)\csc^3(\theta)\,d\theta$ $\frac{1}{7}\csc^7(x) - \frac{2}{5}\csc^5(x) + \frac{1}{3}\csc^3(x) + C$

9. $\int x\sec(x)\tan(x)\,dx$ Hint: By parts $x\sec(x) - \ln|\sec x + \tan x| + C$