Math 16C
Kouba
Trigonometry Formulas (Derivatives, Integrals, and Identities)– Review

1.) $D\{\sin x\} = \cos x$

2.) $D\{\cos x\} = -\sin x$

3.) $D\{\tan x\} = \sec^2 x$

4.) $D\{\sec x\} = \sec x \tan x$

5.) $D\{\cot x\} = -\csc^2 x$

6.) $D\{\csc x\} = -\csc x \cot x$

1.) $\int \cos x \, dx = \sin x + C$

2.) $\int \sin x \, dx = -\cos x + C$

3.) $\int \tan x \, dx = \ln|\sec x| + C$

4.) $\int \sec x \tan x \, dx = \sec x + C$

5.) $\int \sec x \, dx = \ln|\sec x + \tan x| + C$

6.) $\int \sec^2 x \, dx = \tan x + C$

7.) $\int \cot x \, dx = \ln|\sin x| + C$

8.) $\int \csc x \cot x \, dx = -\csc x + C$

9.) $\int \csc x \, dx = \ln|\csc x - \cot x| + C$

10.) $\int \csc^2 x \, dx = -\cot x + C$

Trigonometric Identities (Sometimes needed for integrating trig functions)

1.) $\cos^2 x + \sin^2 x = 1$

2.) $1 + \tan^2 x = \sec^2 x$

3.) $1 + \cot^2 x = \csc^2 x$

4.) $\sin 2x = 2 \sin x \cos x$

5.) $\cos 2x = 2\cos^2 x - 1$
$= 1 - 2\sin^2 x$
$= \cos^2 x - \sin^2 x$