

MATH 1316
TRIGONOMETRY
LAB EXERCISE #3

Instructor's Name: _____

NAME: _____

DATE: _____

SECTION # : _____

Attach computer printouts to this sheet.

3a. Use the TI-83 to graph $y = \tan^2(x) + 1$ (Print) and $y = \sec^2(x)$. (Print). Use $(-\pi \leq x \leq \pi)$. Compare the graphs.

3b. Use the TI-83 and $x = \pi/4$ to verify that $\tan^2(x) = \sec^2(x) - 1$. (Print)

3c. Use the TI-83 to graph $y = \frac{\sin^3(x) - \cos^3(x)}{\sin(x) - \cos(x)}$ (Print) and $y = 1 + \sin(x)\cos(x)$ (Print). Use $(-\pi \leq x \leq 2\pi)$. Compare the graphs.

3d. Use the TI-83 and $x = \frac{\pi}{2}$ to verify $(1 + \sin(x) + \cos(x))^2 = 2(1 + \sin(x))(1 + \cos(x))$

3e. Use the TI-83 to graph $y = \cos(x - \pi)$ (Print) and $y = \cos(x)\cos(\pi) + \sin(x)\sin(\pi)$ (Print). Use $(-\pi \leq x \leq 2\pi)$. Compare the graphs.

TRIGONOMETRY: LAB # 3 (Fall 06)

This is an identity drill. It would be useful to consult the flap of your text as you proceed.

(3a, c, & e) $\tan^2(x)$ should be entered as $(\tan(x))^2$. Remember that you must first take the tangent of the angle and *then square it!* What must you do the secant to enter it? Your x axis window settings are provided; you must determine how to set the y axis...think amplitude of the functions. And pay attention to your MODE settings. If the graphs are the same, then does this verify that the functions are *identities*. Does this agree with the text.?

(3b & d) Set this equation up on the home screen. The “=” is found under the 2nd TEST key (right under the ALPHA key). Return of a 1 means true and return of a 0 means false.