

Name _____ Date _____ Period _____

Precal Matters: WS 6.2B Xtra Practice. Show ALL steps. If you are doubting whether to show a step or not show a step, show it.

Part I: Trig Proofs with Fundamental Identities

Prove 5 out of 6 Identities. Show all steps including substitutions and algebraic procedures.

$$1. (\sin A + \cos A)^2 = 1 + 2 \cos A \sin A$$

$$2. \sec x(\sec x + 1) = \frac{\tan^2 x}{1 - \cos x}$$

$$3. \frac{\sin x}{\csc x} + \frac{\cos x}{\sec x} = 1$$

$$4. \frac{\sec^2 x - 7 \tan x + 11}{\sec^2 x - 17} = \frac{\tan x - 3}{\tan x + 4}$$

$$5. \frac{1 - \cos B}{\sin B} = \frac{\sin B}{1 + \cos B}$$

$$6. \frac{\sin A}{1 + \sec A} = \frac{\sin A \cos A}{\cos A + 1}$$

Part II: Solving Trigonometric Equations

For each of the following, solve each trig function without a calculator, where $0 \leq x < 2\pi$. Show all work and give simplified, exact answers.

$$1. 2 \sin x \cos x = -2 \cos x$$

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

$$3. 5\sqrt{3} \tan x + 3 = 8\sqrt{3} \tan x$$