

## Pre-Calculus Test Chapter 5

## Form A

Show ALL work!!! Step-by-step!!!

- 1 Simplify the expression below to  $\cos x$ .

$$\frac{\cot x}{\csc x}$$

- 2 Simplify the expression below to  $\tan x$ .

$$\cos\left(\frac{\pi}{2} - x\right) \sec x$$

- 3 Simplify the expression below to  $3(\sec x + \tan x)$ .

$$\frac{3}{\sec x - \tan x}$$

- 4 Simplify the expression below to  $\csc \theta \sec \theta$ .

$$\frac{\csc^2 \theta}{\cot \theta}$$

5 Solve the equation. Find ALL solutions.

$$3\sec^2 x - 4 = 0$$

6 Solve the equation. Find ALL solutions.

$$\cos 2x = \frac{1}{2}$$

7 Find all solutions of the equation in the interval  $[0, 2\pi)$ .

$$2\cos^2 x + \cos x - 1 = 0$$

8 Find all solutions of the equation in the interval  $[0, 2\pi)$ .

$$\sin\left(x + \frac{\pi}{3}\right) + \sin\left(x - \frac{\pi}{3}\right) = 1$$

- 9 Find the exact values of  $\tan 2x$  using double-angle formulas.

$$\sin x = -\frac{4}{5}, \pi < x < \frac{3\pi}{2}$$

- 10 Use the given information to find all six trigonometric functions.

$$\sin \theta = -1, \cot \theta = 0$$

$$\cos \theta =$$

$$\tan \theta =$$

$$\csc \theta =$$

$$\sec \theta =$$