Instructor: _____   Section: _____

Part One. Circle the correct answer.

1) $\cos x\,(\,\sec x - \cos x\,) = ??$

A) $\cos^2 x$ B) $\tan^2 x$ C) $\sin^2 x$ D) 1   E) 0

2) $\sin(-x) + \sin x = ??$

A) $2\sin x$ B) 2   C) $\sin x \cos x$ D) $-2\sin x$ E) 0

3) $\dfrac{\cos x}{\sin x} = ??$

A) $\tan x$ B) $\cot x$ C) $\cos^2 x$ D) $\csc^2 x$ E) $\sec x\ \csc x$

4) $\cos^2 x + 1 + \sin^2 x = ??$

A) 2   B) $2\sin^2 x$ C) $2\cos^2 x$ D) 1   E) 0

5) $\dfrac{\csc x}{\sec x} = ??$

A) $\cos^2 x$ B) $\sin^2 x$ C) $\tan x$ D) $\cot x$ E) 1

6) $\sin x + \cos\left(\dfrac{\pi}{2} - x\right) = ??$

A) $2\sin x$ B) 0   C) $2\cos x$ D) $2\sin x \cos x$ E) $-2\sin x$

7) $\dfrac{1}{\csc x} = ??$

A) $\sec x$ B) $\cos x$ C) $\sin x$ D) $\cot x$ E) $\cos^2 x$

Part Two. Show your work and then place the answer in the box provided.

8) Rewrite $\sin^3 x - \cos^2 x \sin^3 x$ as a single trigonometric function.

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9) Rewrite $(2 \cos x)(3 \tan x)(\csc x)$ as a single number or single trig. function.

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10) Prove the following identity: $\dfrac{\sec^2 x - 1}{\sin^2 x} = \sec^2 x$