

Honors Trigonometry

Name _____

Copy the original problem.

Per _____ Date _____

Convince *me* that **you** understand the concept.

No decimal answers.

Chapter 2 Exam

I Determine the exact value of the following. Reduce fully.

Do not leave radicals in the denominator.: $\csc\left(\frac{-41\pi}{12}\right)$ (10 pts)

II For each of the following functions, state the domain, range, period and state whether the function is odd, even, or neither. (25 pts tot)

A) $A(x) = \sin x$ B) $B(x) = \cos x$ C) $C(x) = \tan x$

D) $D(x) = \sec x$ E) $E(x) = \csc x$ F) $F(x) = \cot x$

III State the sine, cosine, and tangent “add/subtract” formulas we use in class.(10 pts tot)

IV Leaving the *LEFT SIDE UNTOUCHED*, **PROVE** the given identity. (15 pts ea)

A) $\frac{\cos 2x}{\cos x} = \frac{1 - \tan^2 x}{\sec x}$ B) $\tan\left(\frac{x}{2}\right) = \csc x - \cot x$

C) $\sec^2 x - \cos^2 x = \sin^2 x + \tan^2 x$

V Given $\sin x = \frac{4}{5}$ and $\frac{\pi}{2} < x < \pi$. Find $\cot 2x$. (10 pts)

EXTRA CREDIT 5 pts

Prove: $\sin 6x + \sin 2x = 2 \sin 4x \cos 2x$