

Name _____ Score _____/10

Please Print Clearly

The style for presenting proofs of this nature is pretty standard. It is the style used in your textbook. It is the style I have consistently used in class. It is the style I have used on handouts. It is the style used to present the proofs below. It is the style you should use to write proofs when you do your homework. It is the style you should use when discussing proofs with your friends. It is the style you should use on quizzes and tests.

1. Prove $\sin x \sec x = \tan x$

Proof:

$$\sin x \sec x = \sin x \left(\frac{1}{\cos x} \right) = \frac{\sin x}{\cos x} = \tan x.$$

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

Several proofs are possible, were presented by your classmates, and are presented here.

Proof:

$$\cos^2 x - \sin^2 x = (1 - \sin^2 x) - \sin^2 x = 1 - 2 \sin^2 x$$

Alternate:

Proof:

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

Alternate:

Proof:

$$1 - 2 \sin^2 x = (1 - \sin^2 x) - \sin^2 x = \cos^2 x - \sin^2 x$$