Name _____ Date _____

Pythagorean Identities - Matching Worksheet

Write the letter of the answer that matches the problem.

_____ 1. If cos Θ = $\frac{13}{18}$
Find the values of the sin Θ, using a Pythagorean identity.

_____ 2. Simplify $\sec^2 x + \tan^2 x \cot^2 x$

_____ 3. Simplify the expression: $\left(\frac{sin^2x}{cos^2x}\right)\left(\frac{1}{csc^2x}\right)$ to a single trigonometric function.

_____ 4. If cot Θ = $\frac{4}{8}$
Find the values of the csc Θ, using a Pythagorean identity.

_____ 5. Simplify the expression: $(\cot^2 x + 1)(\sin x)$ to a single trigonometric function.

_____ 6. Simplify $\sec^2 x \cot^2 x$

_____ 7. Simplify the expression: $(1-\cos^2 x)(\sec x)$ to a single trigonometric function.

_____ 8. Simplify $\sin^2 x + \sec^2 x \cot^2 x$

a. $sin^2x\left(\frac{1}{cos^2x}\right)$

b. $tan^2x \quad sin^2x$

c. csc Θ = $\frac{8.9}{8}$

d. sin^2x

e. $\left(\frac{1}{csc^2x}\right) + sin^2x$

f. $\frac{1}{cos^2x}$

g. sin Θ = $\frac{12.4}{18}$

h. csc x