Integrated Math III Accelerated **Name:** _____
Trig Identities Matching Worksheet **Date:** _____ **Period:** ___

Write the steps to proving the identity in order, as well as match it with the correct mathematical steps.

1. Verify that $cosx + sinx \cdot tanx = secx$

1. $\frac{cosx}{1} \cdot \frac{cosx}{cosx} + \frac{sin^2x}{cosx}$	A. Quotient Identity
2. $cosx + sinx \cdot \frac{sinx}{cosx}$	B. Create Common Denominator
3. $secx$	C. Combine Into One Fraction
4. $\frac{cos^2x + sin^2x}{cosx}$	D. Given
5. $cosx + sinx \cdot tan$	E. Reciprocal Identity
6. $\frac{cos^2x}{cosx} + \frac{sin^2x}{cosx}$	F. Product Property
7. $cosx + \frac{sin^2x}{cosx}$	G. Product Property
8. $\frac{1}{cosx}$	H. Pythagorean Identity

2. Verify that $\frac{cos^2x - sin^2x}{sin^2x} = 2cot^2x - csc^2x$

1. $\frac{2cos^2x-1}{sin^2x}$	A. Distribute
2. $\frac{cos^2x - 1 + cos^2x}{sin^2x}$	B. Given
3. $2cot^2x - csc^2x$	C. Quotient Identity
4. $\frac{cos^2x-sin^2x}{sin^2x}$	D. Combine Like Terms
5. $2cot^2x - \frac{1}{sin^2x}$	E. Reciprocal Identity
6. $\frac{cos^2x-(1-cos^2x)}{sin^2x}$	F. Pythagorean Identity
7. $\frac{2cos^2x}{sin^2x} - \frac{1}{sin^2x}$	G. Split into two Fractions

3. Verify that $sin^2x \cdot cot^2x + cos^2x \cdot tan^2x = 1$

4. Verify that $\frac{csc^2x-1}{csc^2x} = cos^2x$