PROVING TRIG IDENTITIES

TEXT: 2.4

LAST NAME	FIRST NAME	DATE

1 (8 points)**.** Apply trigonometric identities one by one to the left side of the equation until it turns into the right side. It may take a few tries before you figure out a way to do this, so consider using scratch paper until you come up with a complete proof.

(a)

$$\frac{1+\cot(\gamma)}{\csc(\gamma)} = \sin(\gamma)+\cos(\gamma)$$

(b)

$$\cot(\alpha)\cos(\alpha) = \csc(\alpha)-\sin(\alpha)$$

(c)

$$(\tan^2 x + 1)(\cos^2 x - 1) = -\tan^2 x$$

(d)

$$\frac{\sin^2(\alpha) - 1}{\tan(\alpha)\sin(\alpha) - \tan(\alpha)} = \cos\alpha + \cot\alpha$$