$3x = 6$

$3x - 3 = 7$

5. $\cot x \sin x \stackrel{?}{=} \cos x$

(8) $\frac{\cos x}{\sin x} \cdot \sin x$

$\cos x$ ✓

6. $\frac{\cos^2 x}{\sin x} + \sin x = \csc x$

$\frac{\cos^2 x}{\sin x} + \frac{\sin x}{1}$

$\frac{\cos^2 x}{\sin x} + \frac{\sin x \sin x}{\sin x}$

$\frac{\cos^2 x}{\sin x} + \frac{\sin^2 x}{\sin x}$

$\frac{\cos^2 x + \sin^2 x}{\sin x}$

(15)

$\frac{1}{\sin x}$

$\csc x$ ✓ (4)

7. $\frac{(1 - \sin^2 x)(1 + \tan^2 x)}{(\cos^2 x)(\sec^2 x)} \stackrel{?}{=} 1$

(15) $\sin^2 + \cos^2 = 1$

$\cos^2 A = 1 - \sin^2 A$

(16) $\tan^2 A + 1 = \sec^2 x$

$\cos^2 x \cdot \frac{1}{\cos^2 x}$ BF (5)

1 ✓