

$$5. \quad \underline{\cot X \sin X} \stackrel{?}{=} \cos X$$

$$\begin{aligned} 3X &= 6 \\ 3X - 3 &= 7 \end{aligned}$$

$$8. \quad \frac{\cos X}{\sin X} \cdot \cancel{\sin X}$$

$$\cos X \quad \checkmark$$

$$6. \quad \underline{\frac{\cos^2 X}{\sin X} + \sin X} = \csc X$$

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

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

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

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

$$\frac{1}{\sin X}$$

$$\csc X \quad \checkmark$$

(15)

(4)

$$7. \quad \underline{(1 - \sin^2 X)(1 + \tan^2 X)} \stackrel{?}{=} 1$$

$$(\cos^2 X)(\sec^2 X)$$

$$\cancel{\cos^2 X} \cdot \frac{1}{\cancel{\cos^2 X}}$$

$$1 \quad \checkmark$$

(15)

$$\begin{aligned} \sin^2 + \cos^2 &= 1 \\ \cos^2 A &= 1 - \sin^2 A \end{aligned}$$

(16)

$$\tan^2 A + 1 = \sec^2 X$$

BT (5)