

$$16. \frac{1}{1-\cos x} + \frac{1}{1+\cos x} = 2 \csc^2 x$$

$$\frac{1(1+\cos x)}{(1-\cos x)(1+\cos x)} + \frac{1(1-\cos x)}{(1-\cos x)(1+\cos x)}$$

$$\frac{2}{(1-\cos x)(1+\cos x)}$$

$$\frac{2}{1-\cos^2 x}$$

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

$$2 \csc^2 x \checkmark \quad (4)$$

$$\begin{aligned} (15) \quad \sin^2 + \cos^2 &= 1 \\ \sin^2 &= 1 - \cos^2 \end{aligned}$$

$$17. \frac{\cot x - \sec x}{\sin x \cos x} = \csc^2 x - \csc x \sec^2 x$$

$$\frac{\cot x}{\sin x \cos x} - \frac{\sec x}{\sin x \cos x}$$

$$(8) \quad \frac{\frac{\cos x}{\sin x}}{\sin x \cos x} - \sec x \cdot \frac{1}{\sin x} \cdot \frac{1}{\cos x}$$

$$\frac{\cancel{\cos x}}{\sin x \cancel{\sin x} \cos x} - \sec x \cdot \csc x \cdot \sec x \quad (4) \quad (5)$$

$$\frac{1}{\sin^2 x} - \csc x \sec^2 x$$

$$\csc^2 x - \csc x \sec^2 x \checkmark \quad (4)$$