

C12 - 6.2 - Add Subtract Fractions Notes

$$\frac{1}{\cos x} - \frac{\sin x}{\cos x} = \frac{1 - \sin x}{\cos x} \quad \text{Add Fractions: LCD}$$

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

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

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

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

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

$$\sin^2 x + \cos^2 x = 1$$

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

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

$$\frac{\sin x \cos x}{\sin x \cos x} - \frac{\cos x}{\sin x} \times \frac{\sin x}{\sin x}$$

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

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

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

$$\frac{\sin x \cos x}{\cos x}$$

$$\sin x$$

$$\cot x$$

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

$$\tan x + 1$$

Separate Fractions

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

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

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

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

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

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

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

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

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

Add Fractions: LCD
Flip and Multiply

$$\frac{1}{\cos x} - \cos x \quad LDC = \cos x$$

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

$$\left(\frac{1}{\cos x} - \cos x \right) \times \frac{\cos x}{\cos x}$$

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

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

Multiply top and bottom by LCD

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

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

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