

Period 3 Mon 6 Feb 2012

11 12 14 15 21 → Questions

$$11. \frac{1}{\sec x + \tan x} = \csc x - \sin x$$

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

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

$$\frac{1}{\sec x + \tan x} \cdot \frac{1}{1}$$

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

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

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

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

$$\csc x - \sin x$$



14. $\sec x - \cos x = \sin x + \tan x$

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

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

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

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

$$\sin x + \tan x$$

$$15. \sin x + \cos x \cot x = \csc x$$

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

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

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

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

$$\csc x$$

$$= \csc x$$

✓

$$21. \sin^{\frac{1}{3}} x \cos x - \sin^{\frac{5}{3}} x \cos x = \cos x \sqrt{\sin x}$$

$$- \sin^{\frac{1}{3}} x \sin^{\frac{4}{3}} x \cos x$$

$$\sin^{\frac{1}{3}} x \left(\cos x - \sin^2 x \cos x \right)$$

$$\cos x \sqrt{\sin x} \left(1 - \sin^2 x \right)$$

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

$$\cos^3 x \sqrt{\sin x}$$

$$=$$

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

$$\text{Sl. } y = \frac{1}{\cot x + 1} + \frac{1}{\tan x + 1}$$

$$\cot x = \frac{1}{\tan x}$$

$$1/(1/\tan x + 1) + 1/(\tan x + 1)$$

$$\text{SS. } \ln |\cot \theta| = \ln |\cos \theta| - \ln |\sin \theta|$$

$$\ln \left| \frac{\cos \theta}{\sin \theta} \right|$$

$$\ln |\cot \theta|$$

$$63. \tan^5 x = \tan^3 x \sec^2 x - \tan^3 x$$

$$= \tan^3 x (\sec^2 x - 1)$$

$$= \tan^3 x \tan^2 x$$

$$= \tan^5 x$$