

5-9-14
3rd Trig

$$\textcircled{1} \quad \frac{\tan x \cdot \csc x}{\sec x}$$

$$\frac{\frac{\cancel{\sin x}}{\cos x} \cdot \frac{1}{\cancel{\sin x}}}{\frac{1}{\cos x}}$$

$$\frac{\frac{1}{\cancel{\cos x}}}{\frac{1}{\cancel{\cos x}}} = 1$$

$$\textcircled{2} \quad \frac{\tan^2 x}{\sec^2 x}$$

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

$$\frac{\frac{\sin^2 x}{\cancel{\cos^2 x}} \cdot \frac{\cancel{\cos^2 x}}{1}}{\sin^2 x}$$

$$\textcircled{3} \quad \cos(90^\circ - \theta)$$

$$= \cos 90^\circ \cdot \cos \theta + \sin 90^\circ \cdot \sin \theta$$

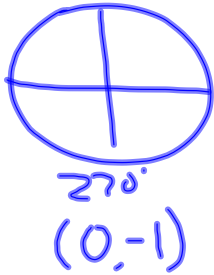
$$\begin{array}{ccc} \downarrow & \downarrow & \\ \textcircled{0} & \cos \theta + 1 \sin \theta & \\ \textcircled{(0)} & \textcircled{0} + \sin \theta & \\ & \sin \theta & \end{array}$$



$$\textcircled{4} \cos(270^\circ - \theta)$$

$$\cos 270^\circ \cdot \cos \theta + \sin 270^\circ \cdot \sin \theta$$

$\downarrow 0 \cdot \cos \theta + -1 \cdot \sin \theta$



$$0 - \sin \theta$$
$$-\sin \theta$$

$$\textcircled{5} (1 - \sin x)(1 + \sin x)$$

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

$$\textcircled{6} \frac{\cos^2 x}{1 - \sin x}$$

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

$$\frac{\cancel{(1 - \sin x)}(1 + \sin x)}{\cancel{1 - \sin x}}$$
$$1 + \sin x$$

$$\textcircled{7} \frac{\cos \theta}{\sin \theta \cdot \cot^2 \theta}$$

$$\frac{\cos \theta}{\frac{\cancel{\sin \theta}}{1} \cdot \frac{\cos^2 \theta}{\sin \theta}}$$

$$\frac{\cancel{\sin \theta}}{1} \cdot \frac{\cos \theta \cdot \cos \theta}{\cancel{\sin \theta} \cdot \sin \theta}$$

$$\frac{\cancel{\cos \theta}}{1} \cdot \frac{\sin \theta}{\cos \theta}$$

$$\frac{\sin \theta}{\cos \theta}$$

$$\tan \theta$$

5-9-14
4th Trig

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

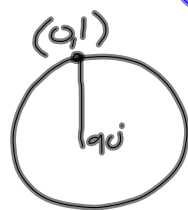
$$1 - \cos^2 x$$

$$\sin^2 x$$

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

$$\textcircled{2} \sin(\theta + 90^\circ)$$

$$= \sin \theta \cdot \cos 90^\circ + \sin 90^\circ \cdot \cos \theta$$



$$\sin \theta \cdot 0 + 1 \cdot \cos \theta$$

$$0 + \cos \theta$$

$$\cos \theta$$

$$\textcircled{3} \frac{\tan x \cdot \csc x}{\sec x}$$

$$\frac{\frac{\cancel{\sin x}}{\cos x} \cdot \frac{1}{\cancel{\sin x}}}{\frac{1}{\cos x}}$$

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

$$\textcircled{4} \quad \frac{\cos \theta}{\sin \theta \cdot \cot^2 \theta}$$

$$\frac{\cos \theta}{\frac{\cancel{\sin \theta}}{1} \cdot \frac{\cos \theta \cos \theta}{\cancel{\sin \theta} \sin \theta}}$$

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

$$\frac{\cancel{\cos \theta}}{1} \cdot \frac{\sin \theta}{\cancel{\cos \theta} \cos \theta}$$

$$\frac{\sin \theta}{\cos \theta}$$

$$\tan \theta$$

