$$
\begin{aligned}
& \sin ^{2} \theta * \cos ^{2} \theta=1 \\
& \cos ^{2} \theta=1-\sin ^{2} \theta
\end{aligned}
$$

$\frac{\sin \theta-\cos \theta}{\sin \theta-\operatorname{sos} \theta}+\frac{\sin \theta+\cos \theta}{\cos \theta}=\frac{2 \sin ^{2} \theta-1}{\sin \theta-\cos \theta}$

$$
\begin{aligned}
& \frac{\sin ^{2} \theta-\cos 2 \theta}{\sin \theta-\cos \theta}= \\
& \frac{\sin ^{2} \theta-\left(1-\sin ^{2} \theta\right)}{\sin \theta-\cos \theta}= \\
& \frac{\sin ^{2} \theta-1+\sin ^{2} \theta}{\sin \theta-\cos \theta}= \\
& \frac{\partial \sin ^{2} \theta-1}{\sin \theta-\cos \theta}=\frac{2 \sin 2 \theta-1}{\sin \theta-\cos \theta}
\end{aligned}
$$

3. Simplify $\cot ^{2} x \sec ^{2} x$.

$$
\begin{aligned}
& \frac{\cos ^{2} x}{\sin ^{2} x} \cdot \frac{1}{\cos ^{2} x} \\
& \frac{1}{\sin ^{2} x} \\
& \csc ^{2} x
\end{aligned}
$$

(9)

$$
\begin{aligned}
\csc x & =\sin x \tan x+\cos x \\
\frac{1}{\sin x} & =\sin x \cdot \frac{\sin x}{\cos x}+\frac{\cos x}{1} \frac{\cos x}{\cos x} \\
& =\frac{\sin ^{2} x}{\cos x}+\frac{\cos ^{2} x}{\cos x} \\
v & =\frac{\sin 2 x+\cos 2 x}{\cos x} \\
\cos x \frac{1}{\sin x} & =\frac{1}{\cos x} \cos x \\
\frac{\cos x}{\sin x} & =1 \\
\cot x & =1
\end{aligned}
$$

$$
\begin{aligned}
& \text { (15) } \begin{aligned}
\cos (A+B) & =\frac{\overline{1-\tan A \tan B}}{\sec A \sec B} \\
\cos A \cos B-\sin A \sin B & =\frac{1-\frac{\sin A \sin B}{\cos A \cos B}}{\frac{1}{\cos A \cos B}} \\
& =\frac{1}{\frac{1}{\cos A \cos B}}-\frac{\frac{\sin A \sin B}{\cos A \cos B}}{\frac{1}{\cos A \cos B}} \\
& =1 \cdot \frac{\cos A \cos B}{1}-\frac{\sin A \sin B}{\cos A \cos B} \cdot \frac{\cos A \cos B}{1} \\
\cos A \cos B-\sin A \sin B & =\cos A \cos B-\sin B
\end{aligned} \\
& 10 \cdot \sin 285^{\circ}= \\
& \sin 225 \sin (225+60) \\
& \left(-\frac{\sqrt{2}}{2}\right)\left(\frac{1}{2}\right)+\left(-\frac{\sqrt{2}}{2}\right)\left(\frac{\sqrt{3}}{2}\right) \\
& \frac{\sqrt{2}-\sqrt{6}}{4}
\end{aligned}
$$

12. $\tan 1695^{\circ}=\tan 255^{\circ}=\tan (26+4,3)$

$$
\begin{aligned}
& \frac{\tan 210+\tan 45}{1-\tan 210 \tan 45}=\frac{\frac{\sqrt{3}}{3}+1}{1-\frac{\sqrt{3}}{3}} \\
& =\frac{\frac{\sqrt{2}}{3}+\frac{3}{3}}{\frac{3}{3}-\frac{\sqrt{3}}{3}}=\frac{\frac{\sqrt{3}+3}{3}}{\frac{3-\sqrt{3}}{3}}=\frac{\sqrt{3}+3}{8} \cdot \frac{x}{3-\sqrt{3}}=
\end{aligned}
$$

$$
\begin{aligned}
& \text { Qulz monari }
\end{aligned}
$$

