ex 4
$\frac{\cot x}{\cos x}=2$

$$
\begin{aligned}
& \frac{\frac{\cos x}{\sin x}}{\frac{\cos x}{1}}=2 \\
& \frac{\cos x}{\sin x} \cdot \frac{1}{\cos x}=2 \\
& \frac{1}{\sin x}=2 \rightarrow \sin \frac{1}{\sin x}=2 \sin x \\
& \frac{\csc x}{}=2 \quad \frac{1}{2}=2 \sin x \\
& \frac{1}{2}-\sin x
\end{aligned}
$$

$$
\begin{aligned}
& \text { 30. } \frac{1+\tan x}{1+\cot x}=2 \longrightarrow \frac{1+\tan x}{1+\cot x}=2 \\
& 1+\tan x=2(1+\cot x) \\
& \frac{\cos x}{\cos x} 1+\frac{\sin x}{\cos x} \\
& \frac{\sin x}{\sin x} 1+\frac{\cos x}{\sin x}=2 \\
& 1+\frac{\sin x}{\cos x}=2\left(1+\frac{\cos x}{\sin x}\right) \\
& \underset{\cos x}{\cos x} \frac{1}{1}+\frac{\sin x}{\cos x}=\frac{2 \operatorname{sint}}{1 \sin x} \frac{2 \cos x}{\sin x} \\
& \frac{\cos x+\sin x}{\cos x}-\frac{2 \sin x+2 \cos x}{\sin x} \\
& \sin x(\cos x+\sin x)=\cos x(2 \sin x+2 \cos x) \\
& \frac{\frac{\cos x+\sin x}{\cos x}}{\frac{\sin x+\cos x}{\sin x}}=2 \\
& \frac{\cos x+\sin x}{\cos x}, \frac{\sin x}{\sin x+\cos x}=2 \\
& \frac{\sin x}{\cos x}=2 \\
& \tan x=2 \\
& \frac{\sin x(\cos x+\sin x)}{\cos x+\sin x}=\frac{2 \cos x(\sin x+\cos x)}{\cos x+\cos x} \\
& \begin{array}{l}
\sin x=2 \cos x \rightarrow 1=2 \frac{\cos x}{\sin x} \\
\frac{\sin x}{\cos x}=2
\end{array} \\
& \frac{\sin x}{\cos x}=2 \\
& \tan =2
\end{aligned}
$$

