Trasforma l'espressione in funzione soltanto di tan  $\alpha$ , sapendo che  $\frac{\pi}{2} < \alpha < \pi$ .

$$\frac{\sin^2\alpha + \cot\alpha - 1}{2\cot^2\alpha + \cos^2\alpha}$$

 $\tan\alpha(\tan^2\alpha - \tan\alpha + 1)$  $3 \tan^2 \alpha + 2$ 

$$tou^{2}d = \frac{\sin^{2}d}{\cos^{2}d} \implies tou^{2}d = \frac{1 - a^{2}d}{\cos^{2}d} = \frac{1 - 1}{\cos^{2}d}$$

$$\Rightarrow tou^{2}d + 1 = \frac{1}{\cos^{2}d} \implies \frac{1 + tou^{2}d}{1 + tou^{2}d}$$

$$tou^{2}a = \frac{\sin^{2}d}{1 - \sin^{2}d} \implies \frac{1 - \sin^{2}d}{\sin^{2}d} \implies \frac{1 + tou^{2}d}{\sin^{2}d}$$

$$\frac{1}{\sin^{2}d} = \frac{1 + tou^{2}d}{\cos^{2}d} \implies \frac{1 + tou^{2}d}{\cos^{2}d} \implies \frac{1 + tou^{2}d}{\cos^{2}d}$$

$$\Rightarrow \frac{1}{\sin^{2}d} = \frac{1 + tou^{2}d}{1 + tou^{2}d}$$

$$\frac{\sin^2 \alpha + \cot \alpha - 1}{2 \cot^2 \alpha + \cot \alpha} = \frac{\sin^2 \alpha + \frac{1}{\cot \alpha}}{\cot \alpha} = \frac{1}{1 + \tan^2 \alpha} + \frac{1}{\cot \alpha} = \frac{1}{1 + \tan^2 \alpha}$$

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$$\frac{\cos \alpha}{\sin \alpha} + \csc \alpha - \frac{\csc \alpha}{\tan \alpha} = \begin{bmatrix} \frac{1}{\sin \alpha} \\ \frac{1}{\sin \alpha} \end{bmatrix}$$

$$= \frac{\cos \alpha b}{\sin \alpha} + \frac{1}{\sin \alpha$$