Calculer $\lim\limits_{x\to\frac{\pi}{2}} (1-\sin x)\cdot\tan x$.

On a :

$$\begin{aligned}
\lim_{x\to\frac{\pi}{2}} (1-\sin x)\cdot\tan x &\overset{\text{(FI)}}{=} \left[0\cdot\infty\right] \\
&= \lim_{x\to\frac{\pi}{2}} (1-\sin x)\cdot\frac{\sin x}{\cos x} \\
&\overset{\text{(FI)}}{=} \left[\frac{0}{0}\right] \\
&\overset{\text{(H)}}{=} \lim_{x\to\frac{\pi}{2}} \frac{\cos x\cdot(1-2\sin x)}{-\sin x} \\
&= \boxed{0}
\end{aligned}$$