Suppose we have a limit such as $\lim\limits_{x\to 0}\left(86\tan^{-1}209x\right)\left(\frac{1}{11x}\right)$ which is of the form $0\cdot\infty$

To rewrite it in the form $\frac{0}{0}$ we use the fact that $A\cdot\frac{B}{C}=\frac{A}{1}\cdot\frac{B}{C}=\frac{AB}{C}$.

$\lim\limits_{x\to 0}\left(86\tan^{-1}209x\right)\left(\frac{1}{11x}\right)=\lim\limits_{x\to 0}\left(\frac{86\tan^{-1}209x}{11x}\right)$ is now in the form $\frac{0}{0}$.

Use L'Hopital's Rule:

$$\lim_{x\to 0}\left(\frac{86\tan^{-1}209x}{11x}\right)\underset{\text{LH}}{\uparrow}=\lim_{x\to 0}\frac{\frac{d}{dx}86\tan^{-1}209x}{\frac{d}{dx}11x}=\lim_{x\to 0}\frac{86\frac{1}{1+(209x)^2}\cdot\frac{d}{dx}209x}{11}$$

$$=\lim_{x\to 0}\frac{86\frac{1}{1+(209x)^2}\cdot 209}{11}$$

$$=\lim_{x\to 0}\frac{1}{11}\cdot 86\cdot\frac{1}{1+(209x)^2}\cdot 209$$

$$=\frac{86\cdot 209}{11}\lim_{x\to 0}\frac{1}{1+(209x)^2}$$

$$=\frac{86\cdot 209}{11}\;\frac{1}{1+(0)^2}=\boxed{1634}$$