$$
\begin{aligned}
(2)\ \lim_{x\to 0}\frac{\tan^{-1}x - x}{\sin x - x} &= \lim_{x\to 0}\frac{1/(1+x^2)-1}{\cos x - 1} \\
&= \lim_{x\to 0}\frac{2x/(1+x^2)^2}{\sin x} \\
&= \lim_{x\to 0}\frac{x}{\sin x}\cdot\frac{2}{(1+x^2)^2} = 2
\end{aligned}
$$