

$$\begin{aligned}
1 \quad & \int \frac{\sin x}{\sin x - \cos x} dx \\
&= \frac{1}{2} \int \frac{\sin x + \cos x + \sin x - \cos x}{\sin x - \cos x} dx \\
&= \frac{1}{2} \int \frac{\sin x + \cos x}{\sin x - \cos x} dx + \frac{1}{2} \int \frac{\sin x - \cos x}{\sin x - \cos x} dx
\end{aligned}$$

Let  $\sin x - \cos x = t$   
 $\Rightarrow (\cos x + \sin x)dx = dt$

$$\begin{aligned}
&= \int \frac{dt}{2t} + \frac{x}{2} + C \\
&= \frac{\ln |\sin x - \cos x|}{2} + \frac{x}{2} + C
\end{aligned}$$