Résoudre l'équation : $\sin 2x = (\cos x - \sin x)^2$.

En développant et en utilisant la formule de duplication en sinus $2\sin x \cos x = \sin 2x$, on a

$$\begin{aligned}
& \sin 2x = (\cos x - \sin x)^2 \\
\iff \quad & \sin 2x = \cos^2 x - 2\sin x \cos x + \sin^2 x \\
\iff \quad & \sin 2x = 1 - \sin 2x \\
\iff \quad & \sin 2x = \frac{1}{2} \\
\iff \quad & 2x = \frac{\pi}{6} + 2k\pi \qquad \text{ou} \qquad 2x = \frac{5\pi}{6} + 2k\pi \\
\iff \quad & x = \frac{\pi}{12} + k\pi \qquad \text{ou} \qquad x = \frac{5\pi}{12} + k\pi
\end{aligned}$$

Finalement, les solutions principales sont $\boxed{Sol = \left\{ \frac{\pi}{12}; \frac{5\pi}{12}; \frac{13\pi}{12}; \frac{17\pi}{12} \right\}}$.