F6. Determine the streamline shapes of the following 2-D velocity field.

\[
\begin{align*}
    u &= -\frac{y}{x^2 + y^2} \\
    v &= \frac{x}{x^2 + y^2}
\end{align*}
\]

Assuming the density is constant, does this flow obey the mass conservation law?