3. (a) By \( \sin^2 t + \cos^2 t = 1 \), we get \( y = 1 - x^2 \). Note that \(-1 \leq x \leq 1\), \(0 \leq y \leq 1\).

Attention, \((\sin t, \cos^2 t)\) can be converted to \( y = 1 - x^2 \) in "algebra" sense, but they are different curves.

(b) \( x = \frac{1}{2} t \Rightarrow t = 2x \)
    \[ y = 2t^2 \]

\( \Rightarrow y = 8x^2 \)

(c) \[
\begin{align*}
    x & = 1 + \frac{1}{t} \\
    y & = t^2
\end{align*}
\]

\( \Rightarrow y = \frac{1}{(x-1)^2} \)

(d) \( y = \frac{1}{x} \)

Note \(-1 \leq x \leq 1\) and \(x \neq 0\)