(1) (5 Points) Find the solution of the differential equation \( y' = yx^2 \) that satisfies \( y(0) = 2 \)

\[
\frac{dy}{dx} = yx^2
\]

\[
\frac{dy}{y} = x^2 \, dx
\]

\[
\ln y = \frac{x^3}{3} + C
\]

\[
y = e^{C} e^{x^3/3}
\]

\[
y(0) = 2 \implies e^C = 2
\]

\[
y = 2e^{x^3/3}
\]

(2) (5 Points) Sketch the curve given by \( x = \sqrt{t}, \quad y = 1 - t \) (and indicate with an arrow the direction of the plot), and find the the Cartesian equation of the curve.

\[
x^2 = 1 \quad x > 0
\]

\[
y = 1 - x^2 \quad x > 0
\]