Write neatly and show your work. If you run out of space and need to write on the back of this sheet, please indicate that you have done so on this page.

1. (10 points) Find the general solution to the differential equation

\[
\frac{dy}{dx} = \frac{1}{e^y \sqrt{1-x^2}}
\]

2. (10 points) Find a solution to the initial value problem

\[
\frac{dy}{dx} = (y - 1) \frac{1}{x}
\]

\[
y(-1) = 0
\]