1. [14 points] Find real-valued solutions for each of the following, as indicated. (Note that minimal partial credit will be given on this problem.)

   a. [7 points] Find the general solution to \( y' = \sin(t) - \frac{\sin(t)}{\cos(t)} y \).

   b. [7 points] Find a solution, explicit or implicit, for \( y \), if

   \[
   y' = \frac{1 + \sin(t)}{1 + \cos(y)}, \quad y(\pi) = 0.
   \]