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 $y' = \sin(t) - \dfrac{\sin(t)}{\cos(t)} y$.

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

$$y' = \frac{1 + \sin(t)}{1 + \cos(y)}, \qquad y(\pi) = 0.$$