

4. [15 points] For each of the following, find explicit, real-valued solutions, as indicated.

a. [7 points] Find the general solution to  $y' = 7 - \frac{\cos(t)}{2 + \sin(t)}y$ .

b. [8 points] Solve the initial value problem:  $\frac{y}{t^2 + 5} y' = 1, y(0) = -2$