

1. [15 points] Solve each of the following, finding explicit real-valued solutions as indicated.

a. [8 points] Find the solution to the initial value problem $\frac{y'}{x^3 + y} = \frac{1}{x}$, $y(1) = 2$.

b. [7 points] Find the general solution to $y' + \frac{1}{t}y = \frac{1}{ty}$.