

Section: 2.2

1. Find an implicit solution to

$$\frac{dy}{dt} = ty^2 + t, \quad y(0) = 1.$$

2. Consider

$$\frac{dy}{dx} = \frac{xe^x(y^2 - 4)}{4}. \tag{1}$$

(a) Find an implicit general solution to (1).

(b) Find an implicit solution to (1) satisfying $y(0) = 1$.

(c) Find a solution to (1) satisfying $y(0) = 2$.

3. Work # 31 in your text. It is an important example that we will want to compare to this afternoon during our discussion of Section 2.3.