

3. [7 points] Consider the curve \mathcal{D} defined by the equation

$$x^2y(1-y) = 9.$$

Note that the curve \mathcal{D} satisfies $\frac{dy}{dx} = \frac{2xy(y-1)}{x^2(1-2y)}$.

- a. [4 points] Exactly one of the following points (x, y) lies on the curve \mathcal{D} . Circle that one point.

(0.9, 10) (1, -8) (3, 9) (9, 3) (10, 0.9)

Then find an equation for the tangent line to the curve \mathcal{D} at the point you chose.

Answer: $y =$ _____

- b. [3 points] Find all points on the curve \mathcal{D} where the slope of the curve is undefined. Give your answers as ordered pairs. Write NONE if there are no such points.

Answer: $(x, y) =$ _____