

Name: _____

1. Consider the curve defined implicitly by

$$x^2 + xy = y^2 + 9.$$

- (a) Use implicit differentiation to find $\frac{dy}{dx}$. Show your work.

- (b) Find the slope of the line tangent to the curve at the point $(3, 0)$.

Name: _____

1. Consider the curve defined implicitly by

$$x^2 + y^2 = xy + 5x.$$

- (a) Use implicit differentiation to find $\frac{dy}{dx}$. Show your work.

- (b) Find the slope of the line tangent to the curve at the point $(5, 0)$.

Name: _____

1. Consider the curve defined implicitly by

$$x^2 + xy + y^2 = 3x.$$

- (a) Use implicit differentiation to find $\frac{dy}{dx}$. Show your work.

- (b) Find the slope of the line tangent to the curve at the point $(3, 0)$.

Name: _____

1. Consider the curve defined implicitly by

$$x^2 + y^2 = xy + 25.$$

- (a) Use implicit differentiation to find $\frac{dy}{dx}$. Show your work.

- (b) Find the slope of the line tangent to the curve at the point $(5, 0)$.