MATH 1325
Chapter 12.4: Implicit Differentiation

DIFFERENTIATE $y = x^N$. DIFFERENTIATE $y = [f(x)]^N$.

DIFFERENTIATE $x^2 + y^2 = 1$ FOR $y \geq 0$.

FIND $\frac{dy}{dx}$.

$y^2 + xy + 3x = 9$

$x^2 - xy + y^2 = 7$

IF $\sqrt{y} - \ln(3x+1) = 2$, FIND $\frac{dy}{dx}$ AT $(0,4)$.

FIND THE EQUATION OF THE LINE TANGENT TO $xe^y = 1$ AT $(1,0)$.

THE DEMAND FUNCTION FOR BUMPER STICKERS AT SCHOOL IS GIVEN BY $P = 9 - Q^2$ WITH P THE PRICE AND Q THE QUANTITY DEMANDED IN HUNDREDS.

FIND $\frac{dQ}{dP}$.

FIND $\frac{dQ}{dP}$ WHEN THE DEMAND IS 200 BUMPER STICKERS.