§3.5: IMPLICIT DIFFERENTIATION

1.] Verify that the point $(3, 2)$ lies on the curve defined by the relation

$$x^2 + xy - y^3 = 7.$$

Find the equation of the tangent line to the curve at the point $(3, 2)$.

2.] Find $\dfrac{dy}{dx}$ for the curve defined by the following relation:

$$\sin(xy) = x^2 + y.$$

3.] Find $\dfrac{dy}{dx}$ and $\dfrac{d^2y}{dx^2}$ for the ellipse defined by the following relation:

$$2x^2 + y^2 = 4.$$