1.) Find the derivative $dy/dx = y'$ for each of the following. You need not simplify your answers.

    a.) $x y^3 + x^2 y = x - y$

    b.) $y^2 (x + y)^3 = x^2$

    c.) $\sin(3x + 2y) = \tan(x^3)$

    d.) $y \sec(y^2 + 1) = \cos(x + y)$

    e.) $(x - \csc(3y))^5 = 7 + y$

2. Find the slope of the line which is tangent to the graph of $xy + x^2 + y^3 = 8$ at $x = 0$.

3. Find the concavity of the graph $x^2 y + y^3 = x + 1$ at $x = 0$.