Graph of the implicit relation $xy^3 + 5y^2 + x = 1$

1. From the plot, it appears that (-2,1) is on the graph. Confirm this by checking that (-2,1) is a solution of the equation.

2. Draw the tangent line at the point (-2,1) as best you can. Estimate the slope of the line you draw.

3. Use implicit differentiation to compute the derivative $\frac{dy}{dx}$. Evaluate this for (-2,1).

4. Compare the results of 2 and 4. Are these consistent with each other? (Keep in mind that the result in 2 is an estimate.)