8. [7 points] For each of parts (a) and (b) below, draw a graph of a single function with all of the listed properties. If there is no function satisfying all the properties, circle NO SUCH FUNCTION EXISTS.

Note: If “NO SUCH FUNCTION EXISTS.” is circled, the graph will not be graded.

a. [3 points] A function \( j(x) \) defined on the interval \(-5 < x < 5\) with the following two properties:
   - \( j''(x) > 0 \) everywhere.
   - \( j(x) \) has a local max at \( x = 0 \).

   Draw a graph: OR Circle: NO SUCH FUNCTION EXISTS.

b. [4 points] A function \( k(x) \) defined on the interval \(-5 < x < 5\) with the following three properties:
   - \( k(x) \) is continuous everywhere except at \( x = 3 \).
   - \( k(x) \) is differentiable everywhere except at \( x = -2 \) and \( x = 3 \).
   - \( k(x) \) has an inflection point at \( x = 0 \).

   Draw a graph: OR Circle: NO SUCH FUNCTION EXISTS.