2. (9 points) In the figure below, are the graphs of three functions, \( f, f', \) and \( f'' \). In the smaller figures, each graph is shown alone. To the right of the lower graphs give a clear explanation of how you determined which graph is \( f \), which is \( f' \), and which is \( f'' \).

Explanation: Note that graph B cannot be the graph of the derivative of either other function, because B has only one zero. Thus, B must be \( f \). Graph B has two local extrema, and Graph C has two zeros—and C is negative where B is decreasing and positive where B is increasing. Thus, C if \( f' \). Graph C has three local extrema and those correspond to the zeros of Graph A. Plus, Graph A represents the increasing/decreasing behavior of C—and thus is \( f'' \).

The graph of \( f \) corresponds to Graph \( B \)

The graph of \( f' \) corresponds to Graph \( C \)

The graph of \( f'' \) corresponds to Graph \( A \)