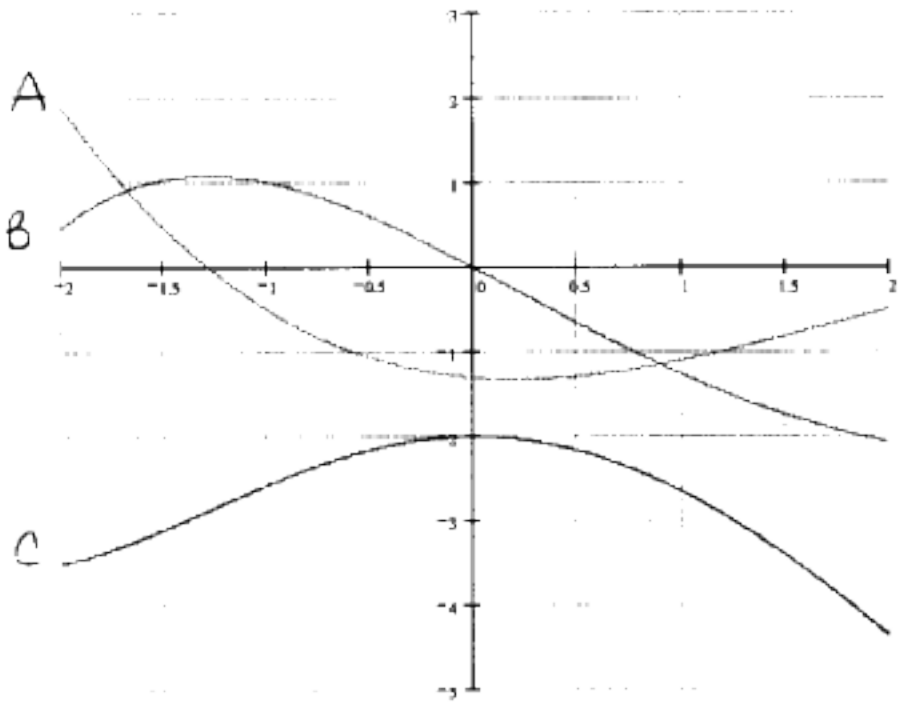
(4.) **(8 pts.)** The graphs of f, f', and f'', are shown in the figure below. Determine which is which, and give ***clear* and *precise*** reasons for your choices.



Graph A must be the graph of f'', because A is the graph of the derivative of B (f') - A is positive when B is increasing & negative when B is decreasing. Furthermore, A is positive when C is concave up & negative when C is concave down.

Graph B must be the graph of f', because B is positive where Graph C is increasing ($x<0$) and negative where C is decreasing ($x>0$).

Graph C must be the graph of f, because it cannot be the derivative of either of the other functions. Graph C is negative everywhere & neither A or B are decreasing throughout.