Further Differentiation (Part 1)

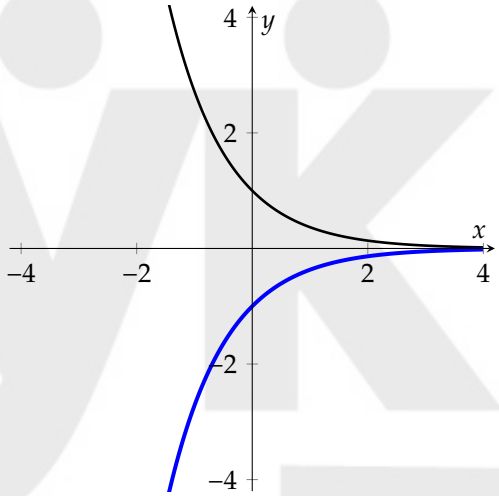
Solution

1. Draw the derivative graph of $y = e^{-x}$.

   When drawing derivative graphs, we note:

   - When the original graph is increasing, the derivative graph is positive
   - When the original graph is decreasing, the derivative graph is negative
   - When the original graph has a turning point or horizontal point, the derivative graph is 0 at that point

   Below we show the **original** graph (in black) and the **derivative** graph (in blue):



2. Draw the derivative graph of $y = -e^{-x}$.

   When drawing derivative graphs, we note:

   - When the original graph is increasing, the derivative graph is positive
   - When the original graph is decreasing, the derivative graph is negative
   - When the original graph has a turning point or horizontal point, the derivative graph is 0 at that point

   Below we show the **original** graph (in black) and the **derivative** graph (in blue):