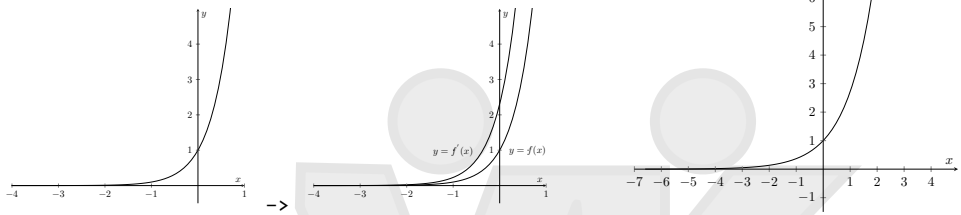
DERIVATIVE GRAPH OF EXPONENTIAL FUNCTIONS:

The graph on the left is the exponential function $y = 10^x$.

The gradient of $y = 10^x$ is positive but getting steeper, so the graph of its gradient/derivative function is steeper than $y = 10^x$.

There is an exponential function for which its gradient function is the same as the original function, and that is the function $y = e^x$.



When drawing derivative graphs, take note of:

- when the graph is increasing (derivative graph is positive)
- when the graph is decreasing (derivative graph is negative)
- a turning point or horizontal point (derivative graph has value of zero)

7.4 WORKED EXAMPLE

Draw the derivative graph over the exponential function provided.