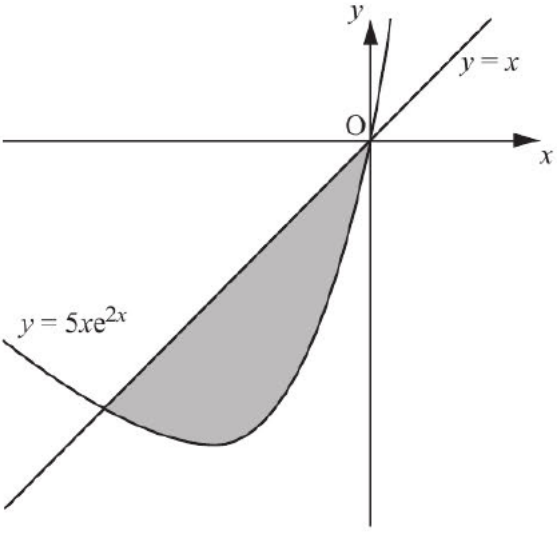
9 The diagram shows the graphs of $y = x$ and $y = 5xe^{2x}$.

The shaded region is bounded by the two graphs.



Determine the exact value of the shaded region. Give your answer in the form $a + b\ln 5 + c(\ln 5)^2$, where a, b and c are constants to be determined. **[8]**