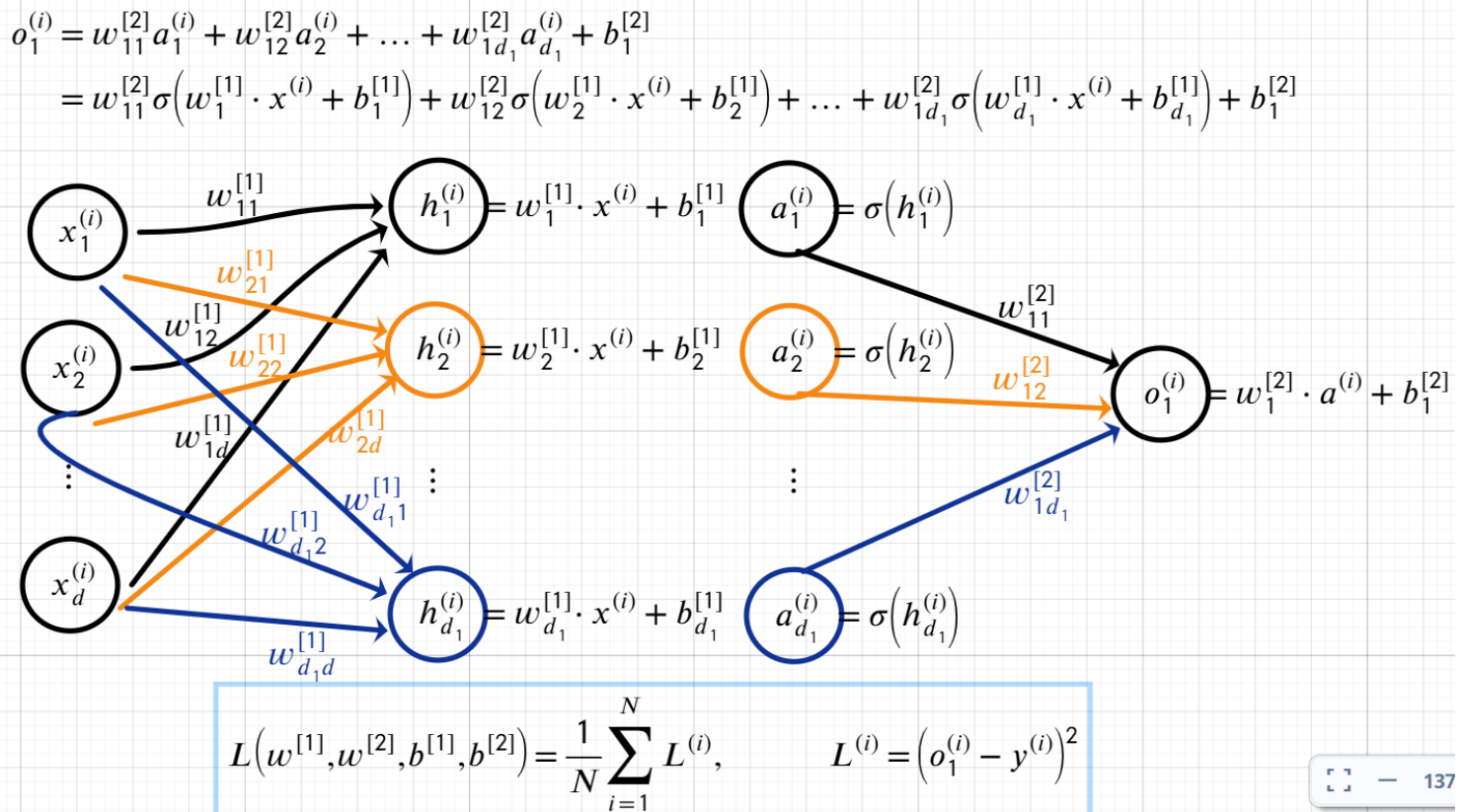


Problem 1. Given the following neural network



write the expressions for $\frac{\partial L}{\partial w_{12}^{[2]}}$ and $\frac{\partial L}{\partial b_2^{[1]}}$.

Problem 2. Assume now that the input dimension is d and the hidden size is 10. Write the dimensions of all the matrices and vectors: $W^{[1]}$, $b^{[1]}$ and $W^{[2]}$, $b^{[2]}$. What is the total number of parameters?