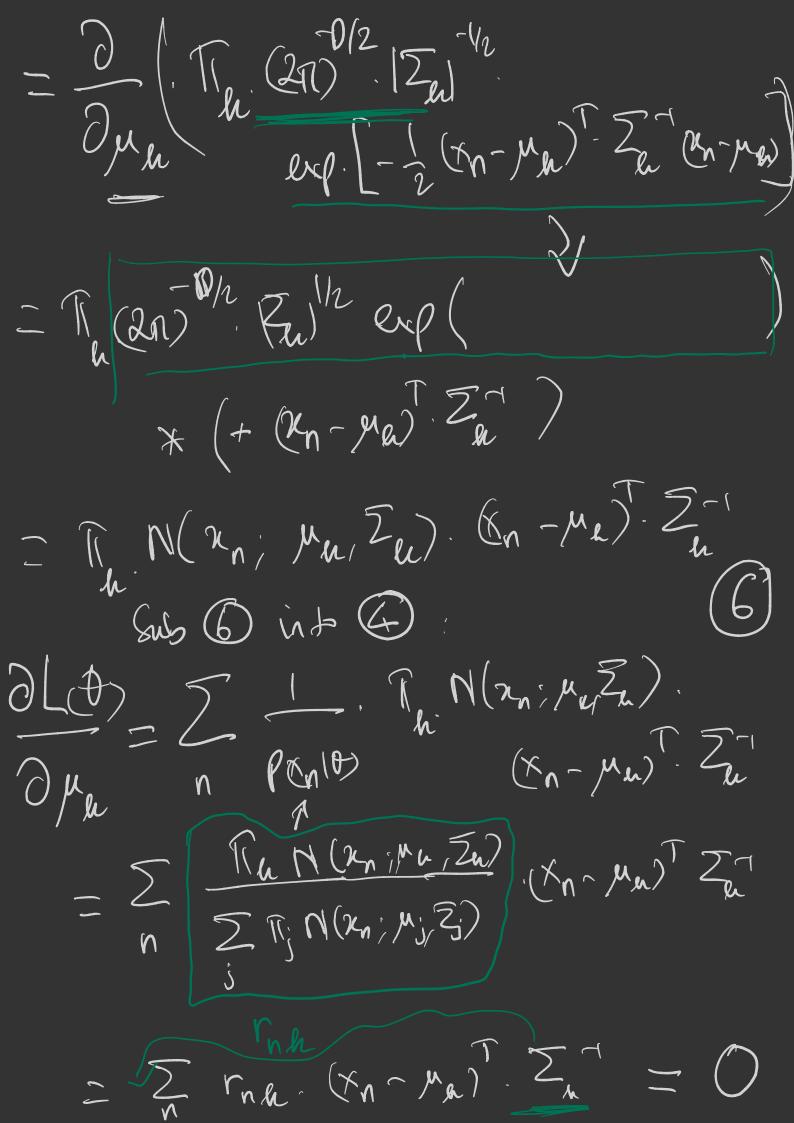
W8 - GMMs $log p(x|\theta) = \sum_{n} log p(x_n|\theta) = \sum_{n} log \sum_{n} N(x_n; M_k, \sum_{n})$ 1 9 p(χ(θ) 2 hgp(x 10) $\frac{\partial \mu_{h}}{P(x|\theta)} = \frac{1}{\sum_{j=1}^{N} N(x_{n_{j}}, \mu_{j}, Z_{j})}$ $p(x|\theta) = \pi p(x|\theta)$ because log parto) = = log partos 0 Ma N(2n, M, Zw) + 2T, M(2n, m, Zw) 0 p(xn/0) 0 Men dipart defend $= \frac{\partial}{\partial \mu_{e}} \left[\prod_{k} N(x_{k}, M_{e}, \sum_{k}) \right]$ on un



 $\frac{\sum_{n} r_{nn} \cdot r_{n}}{\sum_{n} r_{nn} \cdot r_{n}} = 0$ $\frac{\sum_{n} r_{nn} \cdot r_{n}}{\sum_{n} r_{nn}} = 1$ $\frac{\sum_{n} r_{nn} \cdot r_{n}}{\sum_{n} r_{nn}} = 1$