## Exercise: MLE for $\sigma^2$ for linear regression

Linear regression has the form  $p(y|\mathbf{x}, \boldsymbol{\theta}) = \mathcal{N}(y|\mathbf{w}^{\top}\mathbf{x}, \sigma^2)$ . Derive the expression for the MLE for  $\sigma^2$  given in Section "Model fitting using least squares".