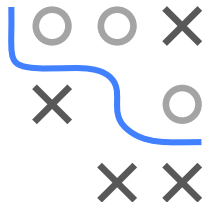
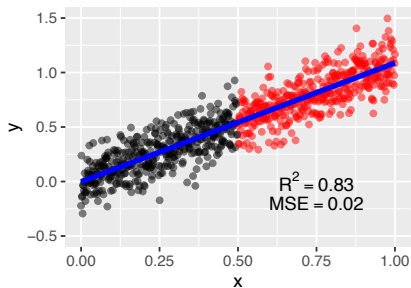
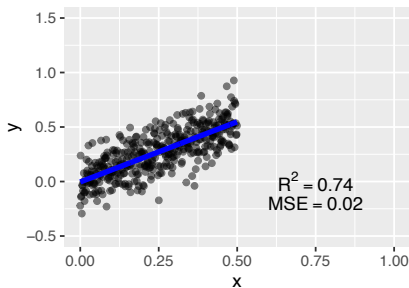


# $R^2$ VS MSE

- Better  $R^2$  does not necessarily imply better fit.
- Data:  $y = 1.1x + \epsilon$ , where  $\epsilon \sim \mathcal{N}(0, 0.15)$ .
- Fit half (black) and full data (black and red) with LM.



- Fit does not improve, but  $R^2$  goes up.
- But: Invariant w.r.t. to linear scaling of  $y$ , MSE is not.