Exam 2000 1

a)

We see that both *kvm* and *room* correlates with *price*, but that *room* does not have a significant effect on price when *kvm* is included in the model. It makes sense that the price increases with numbers of rooms, but not when we control for the size of the appartment, since number of rooms and size is correlated.

b)

Keeping the other parameters constant we see the following effects:

- Price increases with size

- Price increases with number of rooms

- Having a garage increases the price

- Having a balcony increases the price

- The price decreases with rent paid

- The price decreases the more to the east it lies

- The price decreases the more to the north it lies

(Here you should include the effect sizes as well)

c)

At significance level 5% we include the following covariates: Kvm, Balkong, Leie, x + By removing variables we prevent overfitting, and gain residual degrees of freedom. - They might have an effect even though it's not significant at our threshold. By removing all the insignificant covariates, in this case all the remainging variables show increased effect.

d)

Left to right, up to down:

- Check for normality: A bit skewed

- Check for linearity: Maybe include polynimial term

- CHeck for constant variance: Increasing Variance

- Check for constant variance, linearity: seems ok

- Check for constant variance, linearity: increasing variance

- Check for constant variance: maybe not linear

e)

R^2 always increases when including more covariates. R^2_{cv} punishes including insignificant covariates, so that it is safe to pick the one with highest R^2