Simple regression analysis

Use R to access the Maas river data. These data contain the concentration of cadmium, copper, lead, and zinc in ppm at 155 locations at the banks of the Maas river in the Netherlands. You can read the data in R as follows:

```r
a <- read.table("http://www.stat.ucla.edu/~nchristo/statistics100C/soil_complete.txt", header=TRUE)
```

a. Construct a scatterplot of lead (y-axis) against zinc (x-axis).
b. Run the regression of lead on zinc. Submit the R printout. What is the value of $R^2$.
c. Construct a confidence interval for the slope of the model in question (b). What is your conclusion.
d. Test the hypothesis that the slope of the model in question (b) is equal to zero against the alternative that it is not equal to zero. Use the p-value from the R output.
e. Know how to access (or compute) the following using the appropriate R commands:

1. $\hat{\beta}_1$.
2. $\hat{\beta}_0$.
3. $S_{\hat{\beta}_1}$.
4. $S_{\hat{\beta}_0}$.
5. $S^2_e$.
6. $R^2$.
7. The list of the fitted values.
8. The list of the fitted residuals.