Consider the following data:

X	1	4	3	2	5	3
Y	2	7	5	1	14	7

- Compute the linear regression equation for predicting Y from X.

- Perform an ANOVA to test whether X is a significant predictor of Y.

A study was designed to evaluate the relationship between scores on a new screening instrument and scores for the same patients from a set of cognitive exams that are typically used to test for Alzheimer's disease. For a sample of $N = 9$ patients, the scores for the new screening instrument had an average score of 7 with $SS = 92$. The cognitive tests had an average score of 17 with $SS = 236$. Further, the two variables were had a correlation of 0.86.

- Find the regression equation for predicting the cognitive scores from the new screening instrument scores. What is the predicted cognitive test score for someone who scores a 10 on the new screening test?

- What proportion of variance in cognitive test scores is accounted for by the regression equation? Is this proportion statistically significant?