The uses and interpretation of r

A) reliability

B) correlation versus causation

C) r2 , coefficient of determination- the proportion of the variation in a dependent
 variable explained by changes in the variable; 2) the amount of common
 variance a set of variables share.

D) Related but low r?

An industrial sociologist constructed a test intended to predict on-the-job success of applicants for the position of widget inspector. In order to discover how well her test worked, she gave her new test to the first applicants for the job and hired them on probationary status regardless of their test score. She counted the number of faulty widgets approved by each applicant during their first week on the job. Below are the test scores and errors in approval for each applicant.

Applicant Test Score Faulty Widget Approval
 1 20 2
 2 18 1
 3 17 5
 4 16 4
 5 16 3
 6 15 6
 7 15 9
 8 13 5
 9 13 12
 10 13 8
 11 12 10
 12 11 7
 13 9 14
 14 6 17
 15 4 22

A. How good is the test?

B. How many faulty widgets would you expect to be approved during the first week on the job
 by a person that scored 14 on the test?