

Quiz date Tuesday November 4, 2014

Additional problems:

1. Let A and B be $n \times n$ matrices over the field \mathbb{F} . Prove that if $I - AB$ is invertible, then $I - BA$ is invertible, and

$$(I - BA)^{-1} = I + B(I - AB)^{-1}A.$$

2. Use the result of the previous problem to prove that if A and B be $n \times n$ matrices over the field \mathbb{F} then the matrices AB and BA have precisely the same eigenvalues in \mathbb{F} .