AMSC/CMSC 498 Class Participation Exercise 4a , Spring 2012

Name _____

(Possible score: 4 points.)

1. Let $\boldsymbol{A}$ be $n \times n$.
Let $\boldsymbol{a}$ =vec($\boldsymbol{A}$).
Relate `norm(A,'fro')` to $\boldsymbol{a}^T\boldsymbol{a}$.

Answer: $\boldsymbol{a}^T\boldsymbol{a}$ is the square of `norm(A,'fro')`.

2. If `X` is our true image and `Y` is
our computed approximation to it, what does
`norm(X - Y, 'fro')` measure?

Answer: It is the square-root of the sum of squared residuals, and therefore a measure of the difference between the images.