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

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

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

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