What to learn for test #2

1) The inverse 2D-wavelet transform.

2) If the wavelet transform results in $\begin{pmatrix} a_{00} & a_{01} \\ a_{10} & a_{11} \end{pmatrix}$, what is the meaning of the numbers a_{ij}?

3) What is a field? What is the inverse of $a+b\sqrt{p}$ in $\mathbb{Q}(\sqrt{p})$? What is the multiplication table for $\mathbb{Z}_3, \mathbb{Z}_5$?

4) What is a vector space? Decide if a given set is a vector space.

5) What is a linear map? Find out if $T: V \to W$ is linear or not.

6) Show that $\{v \in V \mid T(v) = 0\}$ is a vector space if T is linear.

7) Evaluate inner products and norms.

8) If $(\ ,\ )$ is an inner product, what is $\|u\| = ?$, what does it mean that $u \perp v$?