> In Example 2 in 2.8, are we supposed to attempt to simply the equations or compute the Grobner basis like normal? It seemed like the equations could have been found using substitution.
>
> I don't totally understand the solving of the equations in Example 2...

You're right that the original system could have been solved directly by substitution in this case! In general, though, you might not be able to solve a polynomial system by substitution right away. But computing a Gröbner basis with respect to lex order will always get you to a place where you might be able to solve by substitution.

> [I'm] still a little unsteady on Grobner bases because I don't quite know the order I should be computing $S(f_i, f_j)$.

It doesn't really matter what order you use. Just be systematic about it and make sure you compute the S-polynomial for all pairs! For instance, you might do the order $(i,j) = (1,2),(1,3),\ldots,(1,t),(2,3),(2,4),\ldots,(2,t),\ldots$.