

I did not understand comprehension check problem 1.1.5, mostly because it said to use the proof of proposition 5, and I did not concretely understand how to replicate what proposition 5's proof did in a finite case.

What does it mean when it says "Write f as a polynomial in x " (or y or z)?

To write f as a polynomial in x with coefficients in $k[y, z]$, the idea is to group together all of the like powers of x . So for example, with the polynomial in problem 1.1.5, we have

$$f = (y^2z)x^5 - (y^3)x^4 + (z)x^2 + (y + 2)x + (y^5 - y^3z - 5z + 3).$$

Notice that this is a polynomial in x , where the coefficients are in $k[y, z]$ — the coefficient on x^5 is y^2z , the coefficient on x is $y + 2$, etc.

If you had trouble with this, I encourage you to go back and do the other two parts of this problem yourself!