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Chapter 8
1 message

Izzet Coskun <coskunizzet@gmail.com>   Thu, Nov 16, 2023 at 7:27 PM
To: David Eisenbud <de@berkeley.edu>, Joe Harris <harris@math.harvard.edu>

Dear Joe and David,

Here are some thoughts on Chapter 8.

Best, Izzet

page 167, 1st paragraph of the section. Does it help the reader to talk about Thm 9.2.4 since at this point the reader doesn't know what it is. Also, should it be Corollary 9.2.4?

You could trim the beginning of this chapter without losing much and improving readability.
For instance, `Let $\phi_K : C \to P^3$ be the canonical embedding of a nonhyperelliptic genus 4 curve as a degree 6 curve in P^3. We identify C with its image and investigate the homogeneous ideal I by considering the restriction maps ....'

page 168, It might be a little cleaner to give the rest of the proof of 8.1.1 before stating it. Instead of the sentence, putting all this together, you could say `Conversely, a smooth complete intersection of a quadric and a cubic is a canonical genus 4 curve ...'

I think Q, F, S and G are a little mixed up here. In line 14, F was defining Q. In line -5, F is now a cubic. Maybe in the paragraph after 8.1.1, F should be S? This happens in some later proofs, too. G gets recycled for different purposes (e.g., proof of 8.1.3).

page 172, in the statement of Proposition 8.2.1, in the case d=e a prime, you might want to emphasize that the two g_d^1's are distinct.

page 174, line 9 of proof of 8.3.1, L" has a typo

page 175, line 2 of proof of 8.3.4, repeated the `the the result ...'

page 176, exercise 8.4.1, do you still have to say what a g_3^1 is at this point of the book? Similarly in the statement of 8.3.5, do you have to say what $W_4^1(C)$ is?

It might be better to place the hints next to the problems rather than having a separate section. You have a broken reference in hint for 8.4.2.