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Chapter 2

1 message

Izzet Coskun <coskunizzet@gmail.com> Thu, Nov 9, 2023 at 6:13 PM
To: Joe Harris <harris@math.harvard.edu>, David Eisenbud <de@berkeley.edu>

Dear Joe and David,

Here is what I have for Chapter 2.

--Chapter 2, 1st sentence--I like the conversational style, but there are times when fewer words might be more effective. For example, the first sentence of Chapter 2:

'Because we are going to study curves via their maps to projective spaces, we will want to know how large a space of global sections we should expect an invertible sheaf to have.' could probably be `To study curves via their maps to projective spaces, we want to know the dimension of the space of global sections of an invertible sheaf.' or something similar without losing too much information and increasing readability.

--page 41, cheerful fact 2.2.1, there is a broken reference

--Do you want to give references for your Cheerful Facts (such as 2.2.3)?

--page 43, the proof of Lemma 2.6 says the proof of Proposition 2.5

--This is a question: Is it Hurwitz's theorem or Hurwitz' theorem? I would have thought the former but I guess people use both. Wikipedia likes the first.

--Example 2.2.11, -4 lines, Let should be capitalized in `let W \subset V'

--page 48 between 2.3.4 and 2.3.5 `and $h^1(L)$ reflected how much more than that the actual number was.' could be `h^1(L) reflected the increase in dimension'

--page 56--It might make more sense to define canonically embedded where you defined canonical curve on page 55.

--page 58, line -6. There is an extra `in the' (or possibly something missing)

--page 59, proof of corollary 2.6.2. This seems a little garbled. Do you mean setting O_S(-D) for both L^{-1} and M^{-1}. Should the cokernel in the second sequence be O_D(-D)?

page 60, lines 2 and 3. You are missing 5) in the displayed equations

page 60, the classification of quadrics line 3, the maximal rank of a quadric in P^r is r+1, do you mean m \leq r+1.

page 61, when discussing curves on rank 3 quadrics you have a broken reference

page 61, when discussing curves on rank 4 quadrics you might want to add (0,1)^2 = 0

page 61, line -7, `of the generators' appears twice

page 63, the first paragraph: you might want to emphasize that you are doing this for a curve embedded in a smooth surface.

page 63, maybe give a reference to Castelnuovo's Theorem in 2.6.6

page 63, in exercise 2.7.2, in my first reading, I thought you were fixing X.

page 64, exercise 2.7.5, you already just described C. You might want to move the designation Exercise 2.7.5 up and remove the repetition.

page 66, exercise 2.7.12, missing right parenthesis in Spec(C[x]x..xC[z])

page 66, exercise 2.7.16, m choose 2, should be m+2 choose 2

What is the difference between exercise 2.7.18 and 2.7.3? It seems to me that 16-18 help and redo 3.

Best, Izzet