

For part (a) of your reading assignment, please include answers to the following questions from Kline Chapter 4. Please read the questions before you read the chapter. You do not need full complete detail (or even complete sentences unless that's easier) for your answers to these.

Don't forget to include parts (b) and (c) (as described in the syllabus) on what you turn in.

1. Gauss, Cauchy, Fourier: what were they doing (as described at the beginning of the chapter)?
2. Briefly describe the philosophical shifts that happened in the motivations for the study of mathematics and science during the 18th and 19th centuries. Include key individuals and their contributions.
3. What was the first major (mathematical) break in the reverence of mathematics as inherent to the universe? Who were the major players in this?
4. How did Gauss deal with, philosophically, the fall of Euclidean geometry?
5. Briefly describe Hamilton's contributions.
6. What happened to the view that arithmetic was where truth existed?
7. Who was in the "we'll just reject the new ideas" camp?
8. What do you have to say to the line "Mathematicians offered to the world proof that [hu]man[s] can acquire truths and then destroyed the proof"?
9. What was the most surprising thing to you in this chapter?
10. Write down a quotation (either Kline or something Kline quoted) that particularly stuck out to you.
11. What else do you know that was happening in the world during this period (this is not a test; I'm just wondering—you can look things up if you want to, but don't spend tons of time on it)?