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1. *Assignment.* This should be determined through some class discussion.
 - a. Are you on our Graduate list server? It disseminates important news.
 - b. Make sure you know how to access, when you are off-campus, Internet materials for which our library pays an access fee. Check the library's home page.
 - c. What are the most important things that we could start doing to help you? Think about these and don't hesitate to bring them up in class.
 - d. If we should overview research papers a little more, here are three possibilities. They're available online.
 - i. Grünbaum 2007. Prof. Ovchinnikov is enthusiastic about this because it tackles a question involved in a current project of his: how to define *polyhedron*. I faced the same problem some years ago writing a chapter of Smith 2000. This class faced a version of it again last year. Grünbaum, probably the leading expert on such things, points out that until now there has been no good definition, and proposes one.
 - ii. Tarski 1955. This packages a theorem fundamental for Math 800, and prepares it for use in other contexts too. Evidently it's Tarski's paper most cited in computer-science research.
 - iii. Agrawal, et al. 2004. This is the famous unexpected elementary proof that the question whether a natural number n be prime is decidable in time proportional to $p(n)$ where p is some polynomial.
 - e. Think about questions concerning the social organization of the mathematics discipline, including the role of mathematics journals. We'll begin a somewhat organized discussion of that topic during the next meeting, alongside other topics as appropriate.
 - f. Prepare for further discussion of Smith 2002, with attention to these questions:
 - i. What methods are used?
 - ii. What would you have to study to be able to understand them?
 - iii. Are there extensions of this material?
 - iv. Does this material have interesting connections to other subjects?
 - v. Are there references to supporting documents?
 2. We discussed the following aspects of Smith 2002, and will conclude that discussion during the next meeting.
 - a. What is its subject? *Reflection geometry*.
 - b. What level? *Yours*.
 - c. Who's the author? *I, who do a lot of things, but am not a major mathematical researcher*.
 - d. Who are the audience? *Us*.
 - e. What are the main questions or points? *See the bottom of the first page*.
 - f. Where did these thoughts stem from?
 - g. Why was it written?

3. I described the process I followed to find a story line for that paper.
 - a. I was intrigued by Bachmann's use of Thomsen's equation as an elementary example in his book referred to in my paper. Couldn't he have found a simpler example? This was in the late 1960s. Bachmann's book was, and probably still is, the bible of reflection geometry.
 - b. I followed Bachmann's reference to Thomsen's book. There I found a paragraph in which Thomsen mentioned and cited Kneser's work on his problem.
 - c. I followed Thomsen's reference to Kneser's concise gem, and voilà!
 - d. I felt this result to be so nice it deserved more publicity. I could give abridged talks about it, but didn't see how to write it up intelligibly until I learned enough *Mathematica* to show others how to use it to illustrate an algorithm described in the paper.
4. The moral is, keep your eyes open for seductive questions and engaging stories.
 - a. Often, the footnotes in an authoritative source are more interesting than the text itself!
 - b. I pointed out the rather well-written obituary for Margaret Truman in that day's *San Francisco Chronicle*. The writer had dug up a news story famous when I was in high school, about President Truman's threatening dire physical harm to a critic who had panned his daughter's performance. That provided an engaging way into the broader life story of a musician, mystery writer, biographer, and public figure of New York society.
5. I stressed that my paper had evolved over decades, and was crafted to fit the *Monthly*'s extremely high standards. Dean Axler told me that only about one in twenty papers submitted there is accepted. This one underwent hardly any modification by the *Monthly* editor and referee. Most papers, particularly in research journals as opposed expository journals, are not organized so effectively.