MATH 790
Graduate Seminar
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Reflections Week 2

Reflections:

[I] **Write up a solution via LaTeX of the problem you presented. Send me both the pdf and the LaTeX code.**

$$\textbf{(3)} \int \frac{1}{x\sqrt{x^2-9}}\,dx \quad \boxed{\begin{array}{c}\textbf{Substitution}: x = a\sec(\theta) \\ a = 3 \\ x = 3\sec(\theta) \\ \implies dx = 3\sec(\theta)\tan(\theta)\,d\theta \\ \implies \theta = \operatorname{arcsec}(\frac{x}{3}) \\ \sqrt{x^2-9} = 3\tan(\theta)\end{array}} = \int \frac{1}{\underbrace{(3\sec(\theta))}_{x}\underbrace{(3\tan(\theta))}_{\sqrt{x^2-9}}} \overbrace{(3\sec(\theta)\tan(\theta)\,d\theta)}^{dx}$$

$$= \int \tfrac{1}{3}\,d\theta = \tfrac{1}{3}\theta + c = \tfrac{1}{3}\overbrace{\operatorname{arcsec}(\frac{x}{3})}^{\theta} + c$$

[II] **What do you think you succeed at most when presenting?**

I think I generally present things in a simple way; I don't overcomplicate things. I was a bit disorganized on the board this time but usually I am very consistent and organized in how I do problems. Also I come prepared and I am not nervous.

[III] **What do you need to improve at?**

My main problem is talking at the board/to myself rather to the students. I talk and work though problems too fast. I also am not exciting or excited to do math in general, I'm not a *fun* teacher, it's just not really who I am. I need to work on making class more enjoyable for students, and find a better vibe between super casual and strictly business-like or whatever, the latter is all I know how to do.

In general I don't try to innovate, and when I do problems on the board I don't interact with the class at all. Essentially the only engagement I have with students and that the students have with me is when I go around as they work in groups. This is something I would like to change.