



**Let's Talk About
Math Grad School**

What is Graduate School?

- ▶ School you attend after college to obtain advanced degrees in a particular subject.
- ▶ Generally speaking, two kinds of degrees:
 - ▶ Master's degree (MA or MS)
 - ▶ Doctorate (PhD)



What's the Difference?

Master's Degree

- ▶ Typically 1 to 2 years
- ▶ Advanced coursework (\approx continuation of college)
- ▶ May include a Master's Thesis
- ▶ Costs **\$\$\$** (average \approx \$67k)

Doctorate Degree

- ▶ Typically 5 to 6 years
- ▶ Advanced coursework
- ▶ Original research
- ▶ Doctoral thesis
- ▶ Often includes teaching or TAing
- ▶ You get **paid** to go! (between \$20k and \$35k per year)
- ▶ You can get a Master's Degree along the way for **free**

Why get a PhD?

- ▶ Immerse yourself in mathematics and original research
 - ▶ Discovering new math is exciting!
- ▶ Virtually unbeatable freedom and flexibility in your 20s
 - ▶ Opportunities to travel
- ▶ Required for certain jobs, especially those that involve research (e.g. Professor)
- ▶ Tend to increase your starting salary

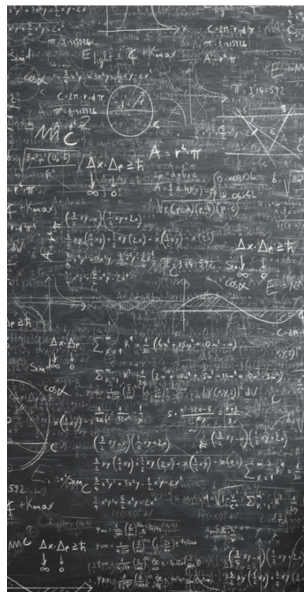


Drawbacks to getting a PhD?

- ▶ If your goal is to get rich, there are easier ways to do it
- ▶ Freedom is not free
 - ▶ Can be challenging to stay motivated and focused
- ▶ Research involves a lot of failure and disappointment
 - ▶ Need persistence and resiliency
- ▶ Only a few people in the world will understand what you are working on
 - ▶ Can be isolating
- ▶ Academic job market is tough

PhD Timeline: My Experience

- ▶ Years 1 and 2
 - ▶ Qualifying Exams
 - ▶ Algebra, Analysis, Topology
 - ▶ Hard classes with homework
 - ▶ After quals, look for an advisor
- ▶ Year 3
 - ▶ Seminar classes
 - ▶ Preliminary exam
- ▶ Years 4 and 5
 - ▶ Research
 - ▶ Write papers
 - ▶ Give talks
- ▶ Year 6
 - ▶ Apply for jobs
 - ▶ Write thesis
- ▶ Started teaching on Day 1
- ▶ Tutored for extra \$\$\$



How to Apply?

Requirements vary by school, but may include:

- ▶ Need 3 to 5 letters of recommendation from faculty
 - ▶ **Ask early!**
- ▶ Statement of Purpose (at most 3 pages)
- ▶ Personal Statement (at most 3 pages)
- ▶ CV/Resumé
- ▶ GRE general and subject test
 - ▶ Increasingly optional
 - ▶ Subject test only offered a few times each year!
- ▶ Minimum GPA requirement (≈ 3.0)
- ▶ **Application fees**

Deadlines

- ▶ PhD applications typically due in December
- ▶ Most schools require a decision by April 15th
 - ▶ Can hear back up until the very last minute

NSF Graduate Research Fellowship Program

- ▶ Must be US citizen, national, or permanent resident
- ▶ \$37,000/year for 3 years
- ▶ Buys you out of teaching so you can focus on school
- ▶ Can apply as a senior and as a first year graduate student*
 - ▶ Mysterious how the awards are distributed, worth a shot!
- ▶ Applications due **mid October**
- ▶ Personal statement (3 pages)
- ▶ Research statement (2 pages)
 - ▶ **Pay attention to the detailed requirements!**



Other Resources

Graduate school has become increasingly competitive:
increase your odds by applying to more schools!

- ▶ You may qualify for
 - ▶ Application fee waivers
 - ▶ GRE fee waiver
- ▶ Career Development Grants from Vassar
 - ▶ Up to \$500 per student for all these costs



How to Prepare as a College Student?

- ▶ Take as many advanced math classes as you can
- ▶ Reading courses
- ▶ Self-study
- ▶ REU or URSI during the summer

A degree from a liberal arts college puts you at a disadvantage

- ▶ Limited advanced courses/no graduate courses

However, there are ways to leverage your time at Vassar

- ▶ Much greater access to faculty!

What if I am Not Ready for Grad School?

Bridge/Postbaccalaureate Programs

- ▶ Short programs (1 or 2 years) to help you prepare for graduate studies
- ▶ Some programs aimed directly at under represented minorities
- ▶ Have connections that may help you get into grad school

Questions?



Page with more information and links to resources

