Thinking about a PhD in Mathematics?

Getting into a PhD program is not a solo journey. Here are 5 steps to get you on your way to applying!

Step 1: Think about your priorities for the next 5 years

- Figure out what to study: Pure Math, Applied Math, both? Also, what sub-field would you specialize in? You don't need to know exactly right away, but you should have a general idea.
- Figure out where you want to study: A big university in a big city (like a UCLA)? A small university in a small town (like a Cornell)? A small university in a big city (like a Vanderbilt)? A big university in a small town (like a Berkeley)? Prestigious, mid-level, lesser-known? Etc…
- Figure out which is more important to you: The university itself and its math program? The location of the university and your lifestyle? Housing and cost of living? Level of competition?

Step 2: Start researching schools, create spreadsheet

- U.S. News and World Report: https://www.usnews.com/best-graduate-schools
  - Pros: One of the oldest ranking systems; updated annually for subsequent year.
  - Cons: Single-dimensional (just one unknown metric)
- National Research Council: https://www.chronicle.com/article/NRC-Rankings-Overview-/124743
  - Pros: Multi-dimensional (Ranks and sorts by 21 different criteria like completion rate, student financial aid, research, prestige, etc.)
  - Cons: Last updated 2010-2011? Check last updated date if it's important to you.
- UniRank: https://www.4icu.org/us/universities/
  - Pros: Overall ranks and sorts by state; provides undergrad admissions rate, multi-dimensional (undergrad).
  - Cons: Provides mostly Undergrad info. Does not provide grad-school rankings.

Step 3: Start your required paperwork

Common requirements for all schools tend to include:

- Statement of Purpose: see http://grad.berkeley.edu/admissions/apply/statement-purpose/.
- 3 Letters of Recommendation from Professors. Give professors plenty of notice (months) and reasons to write you a letter. Assume everyone has good grades: what have you done to stand out? Research, projects, something else? Good grades are not enough.

Step 4: Take any required standardized tests

Check with your school to see if they require or recommend standardized tests: http://ets.org

- GRE General: "High school math", verbal, two essays; offered very frequently
- GRE Math Subject Test: Advanced undergrad math, offered 3 times a year. Take in April or October to get the scores before application deadlines. Give yourself 3+ months to study!
- TOEFL: Test of English as a Foreign Language. For International Student applicants.

Step 5: Submit your application: August - December

- Check your school's application deadlines. Apply in Fall for the subsequent Fall.
- Expect rejection: "Typical" admissions rates may be 10-20%, so apply to a wide range of schools.
- Good luck! You'll hear back by February or March.