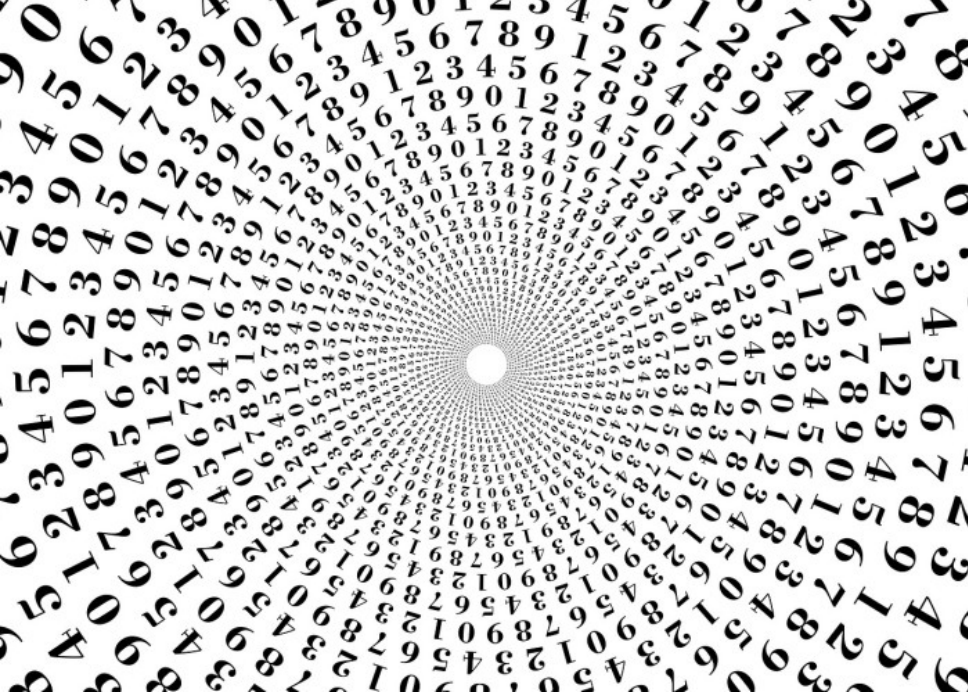


Thinking about where to apply to graduate school and how to get ready

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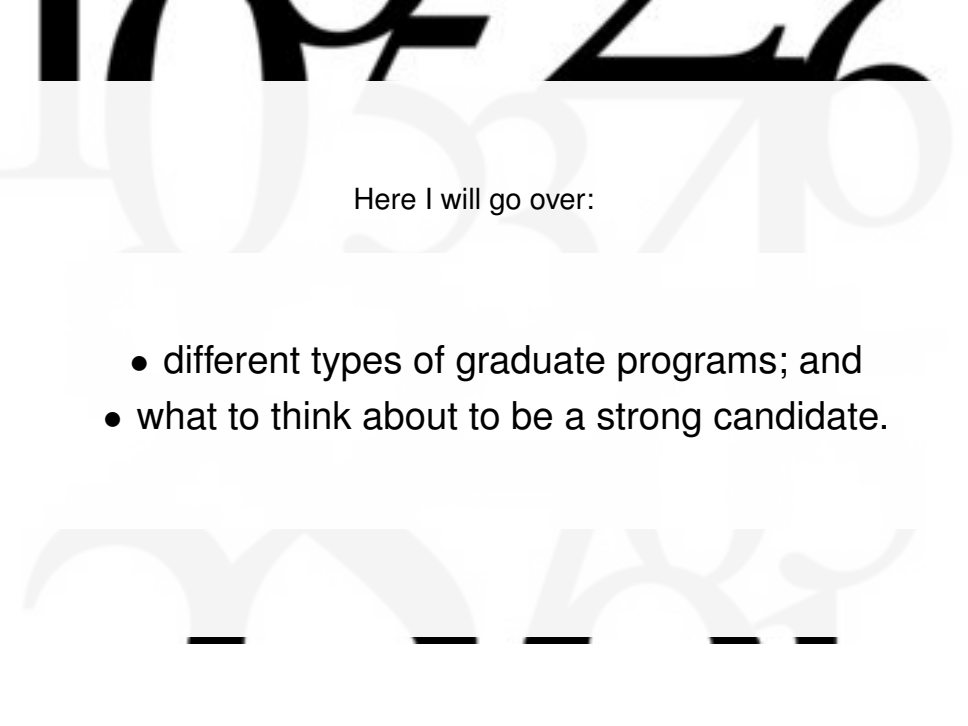


WELCOME!

Here I will go over:



Here I will go over:

- different types of graduate programs; and
 - what to think about to be a strong candidate.
- 



Where should you apply for graduate school?

You could change the question and instead ask:

You could change the question and instead ask:

- Where do I want to spend the next 5 years?

You could change the question and instead ask:

- Where do I want to spend the next 5 years?
or

You could change the question and instead ask:

- Where do I want to spend the next 5 years?
- or
- Where do I want to spend the rest of my life?



Optimize for success

- In what area do I plan to focus?
- Do I prefer personal attention from faculty or learning on my own or in study groups?

- In what kind of environment will I thrive?
 - small town? big city? good weather?
 - what makes a difference to me?



Not settled on an area of focus? Consider programs:



Not settled on an area of focus? Consider programs:

- with area diversity;
- that don't require immediate specialization;
 - that routinely offer a lot of classes and **seminars.**



Set on an area of focus? Consider programs:





Set on an area of focus? Consider programs:

- with at least two researchers in that area;
 - with researchers in related areas;
- with current graduate students in that area.

Go to seminar talks? Why?

Go to seminar talks? Why?

- they help you learn about open problems and local math culture;
 - they help you meet researchers;
- they help you feel part of a community.

The background of the slide is a light gray surface covered with numerous 3D-rendered numbers in various sizes and orientations. The numbers are white with a subtle gray shadow, giving them a three-dimensional appearance. They are scattered across the entire slide, with some appearing larger and more prominent than others. The overall effect is a textured, numerical background.

Look at the seminar calendar at different departments:



Look at the seminar calendar at different departments:

- are there lots of talks?
- are there graduate student seminars?
- are there a number of “outside” speakers?.



Big department or small department? Does it matter?



A small department like Penn can have advantages:

A small department like Penn can have advantages:

- more individual attention;
- a feeling of community;
- small countries can have better governance.

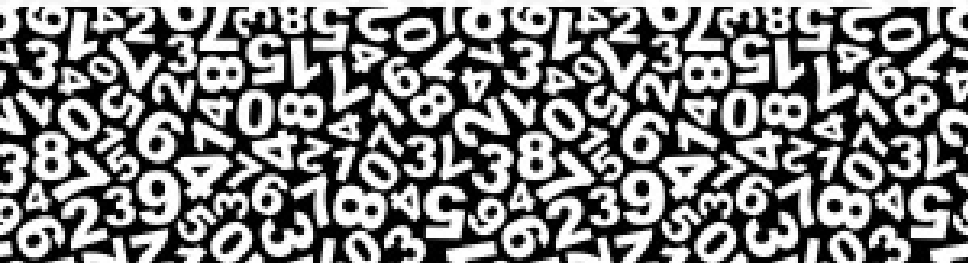
A large department like Rutgers can have advantages:

A large department like Rutgers can have advantages:

- a number of people in any given area;
- a chance to "shop around" for a both a topic and a thesis advisor within that topic;
- more graduate students both to study with and to help you feel part of a community.



To get a feeling for faculty at other departments, and the math community, follow some blogs and look at websites:



- **Michigan: Karen Smith and Dave Speyer**

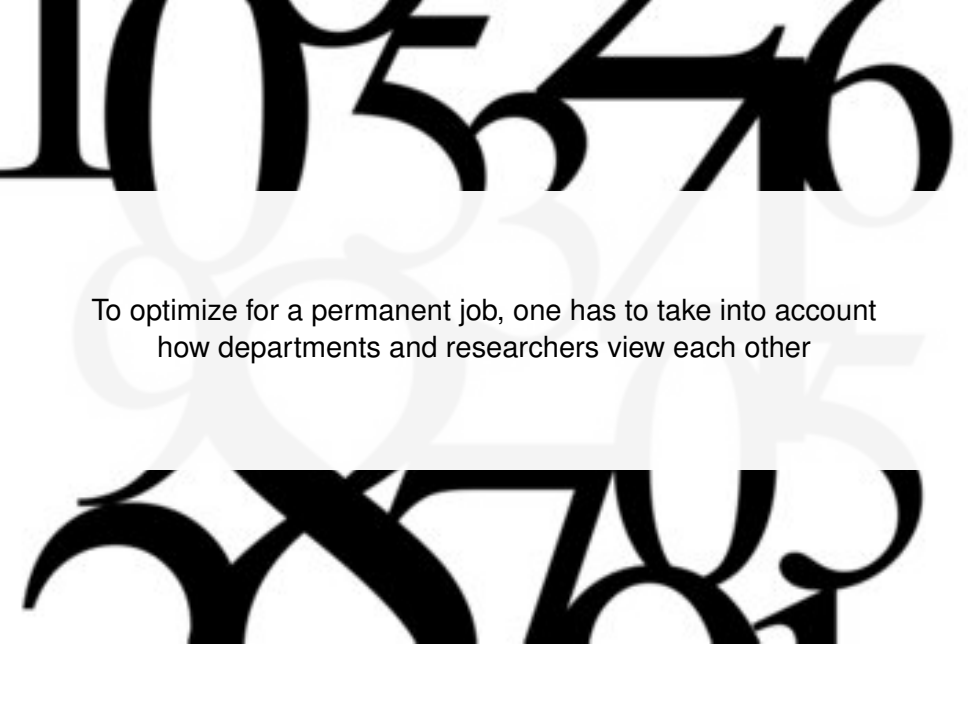
<https://sites.lsa.umich.edu/math-graduates/author/kesmith/>;
<http://sbseminar.wordpress.com>;

- **Wisconsin: Jordan Ellenberg** [https:](https://quomodocumque.wordpress.com)

[//quomodocumque.wordpress.com](https://quomodocumque.wordpress.com);

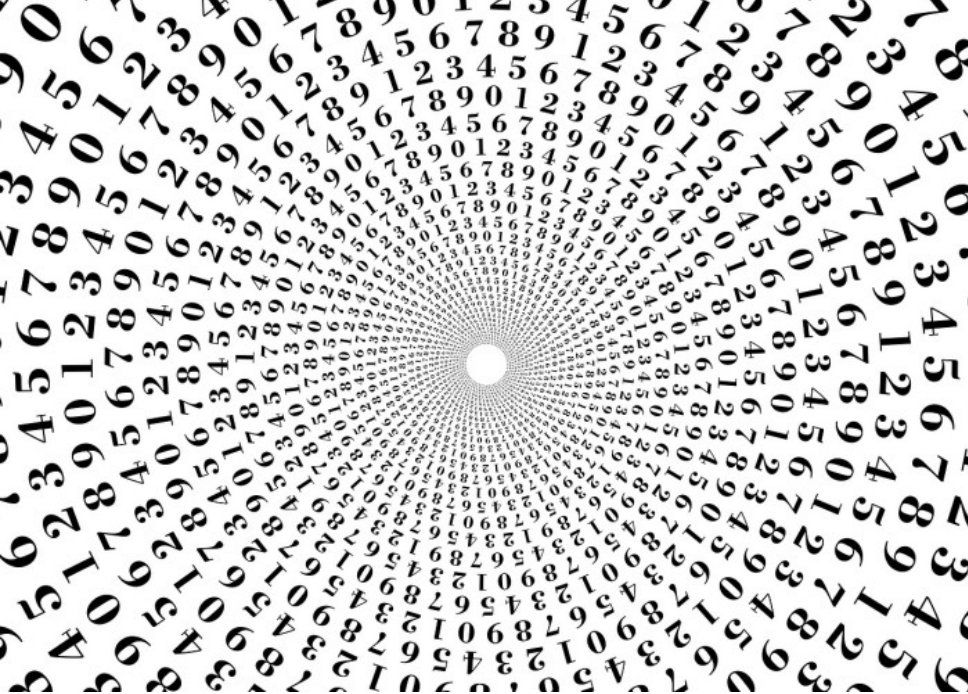
- **UCLA: Burt Totaro and Terry Tao**

<http://burttotaro.wordpress.com>,
<https://terrytao.wordpress.com>.



To optimize for a permanent job, one has to take into account
how departments and researchers view each other

Apply to a range of schools, starting with two or three stretch schools.





RANKINGS?

Here is the US News and World Report ranking:

<http://bit.ly/2m7Jl2rrank>

- R1, R2, R3 (what does this mean?);
- there are rankings among fields that you don't see in the usual lists;
- the teaching experience offered/required can be very different.

**Consider different areas of the country than your
undergrad institution**

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undergrad institution**

- faculty websites can gauge activity;
- make contacts throughout the country.

$$A + \frac{1}{25} I^2 + J_9^2 (\cos \rho - 1) + \varepsilon f(a) (\cos \rho - 1) + \varepsilon' n /$$

$$\Delta \alpha + \omega t \quad 704.28^2 \quad \text{time elapsed} \quad + ((\Delta \cdot 17 \alpha \varepsilon + 5^2) /$$

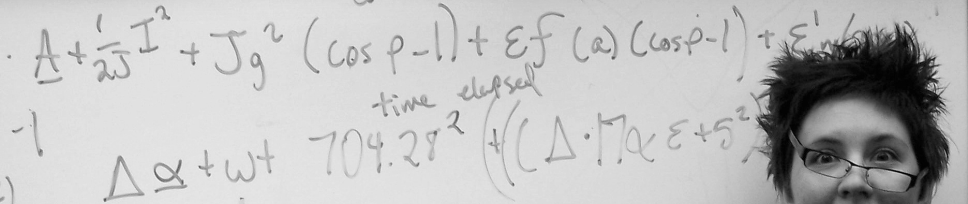
$$\varepsilon = 0: \text{ for } \varepsilon = \emptyset \quad C > 0 \quad \Delta = C(f) \varepsilon^2 \eta^{-1} e^{-1/\eta}$$

$$2D \quad |\varepsilon| = |\varepsilon| < \eta$$

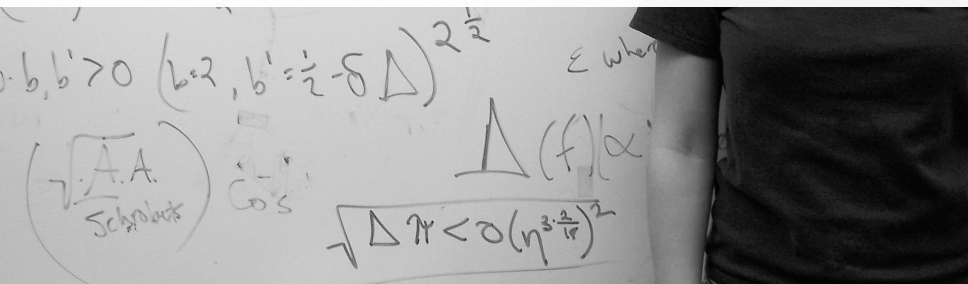
$$b, b' > 0 \quad (b=2, b'=\frac{1}{2} - \delta \Delta)^{2\frac{1}{2}} \quad \varepsilon \text{ where}$$

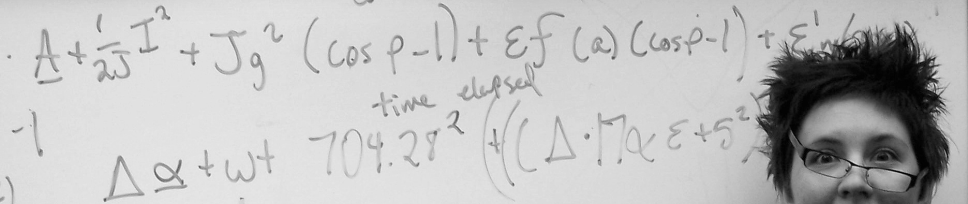
$$\left(\sqrt{\frac{A \cdot A}{\text{Schrödinger}}} \right) \quad \Delta(f) | \alpha$$

$$\sqrt{\Delta \pi} < \sigma (\eta^{3 \cdot \frac{2}{17}})^2$$

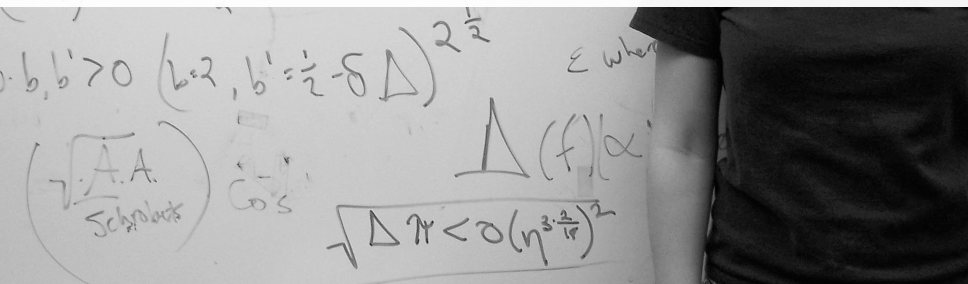


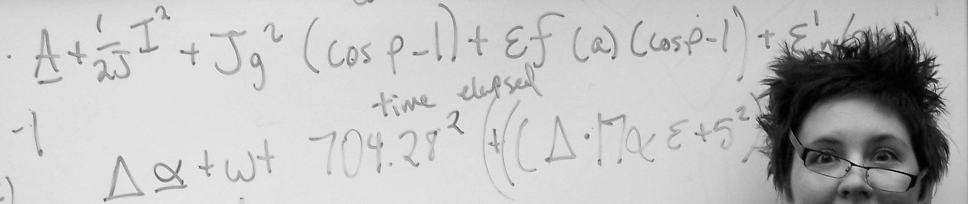
What can you do now?



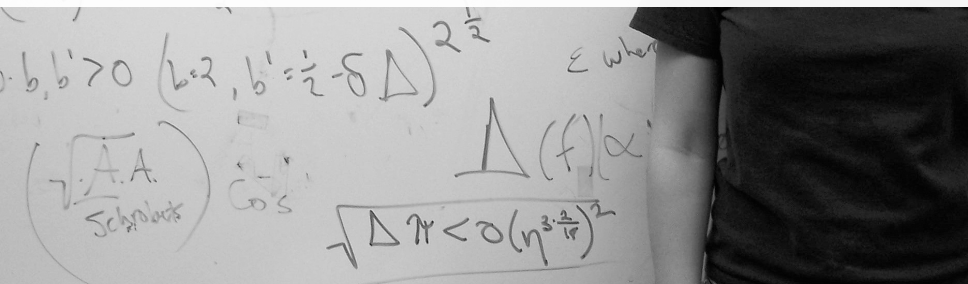


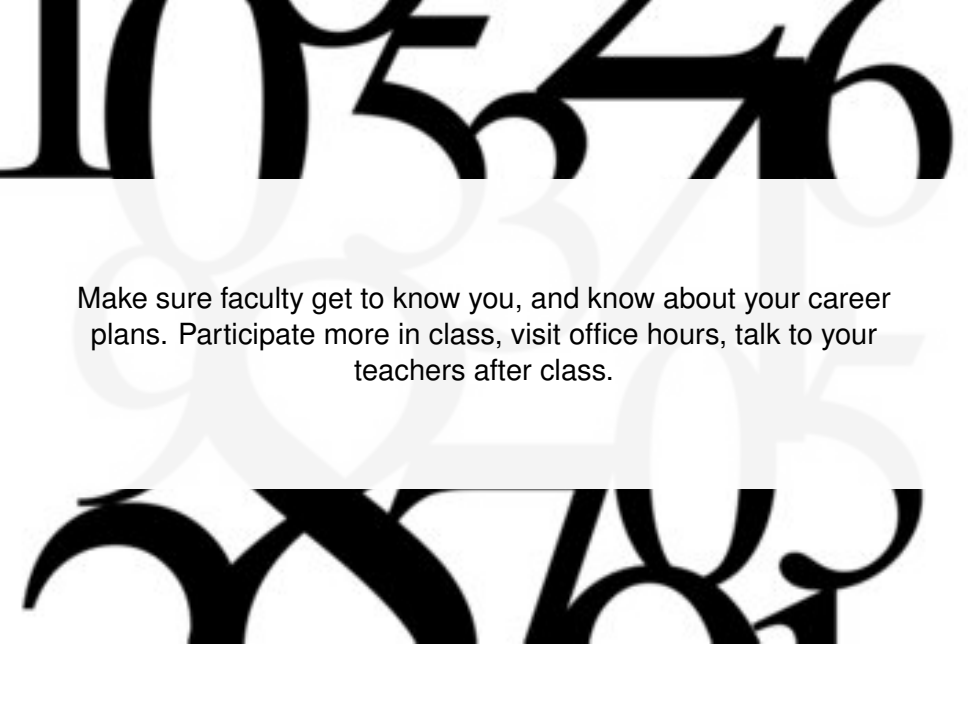
What can you do now? if you have a year?





What can you do now? if you have a year? two years?



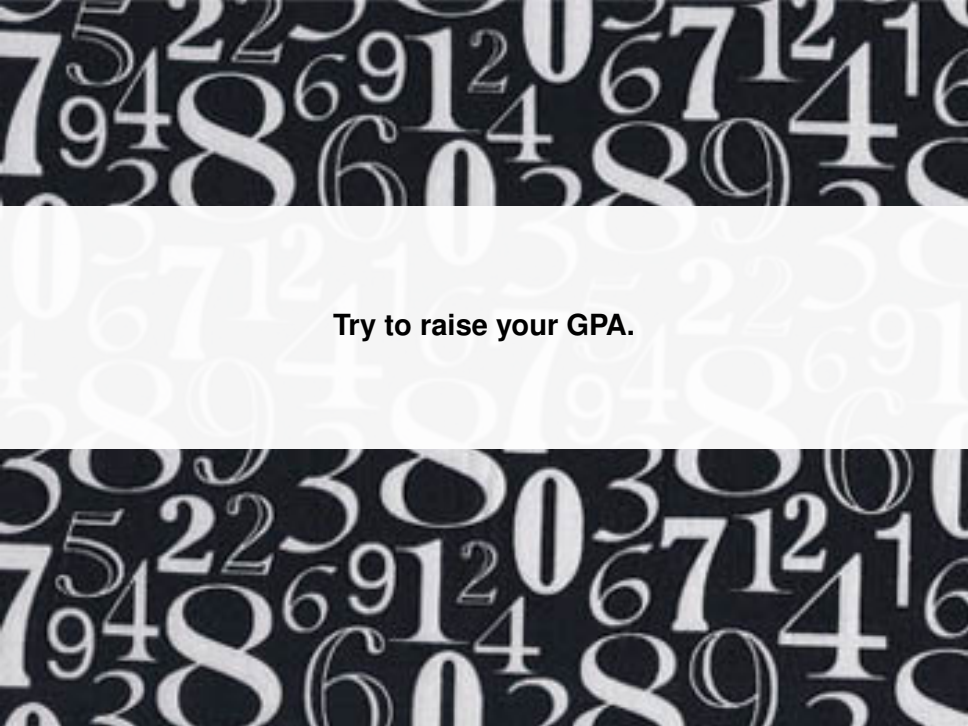


Make sure faculty get to know you, and know about your career plans. Participate more in class, visit office hours, talk to your teachers after class.

Take the “right” classes:

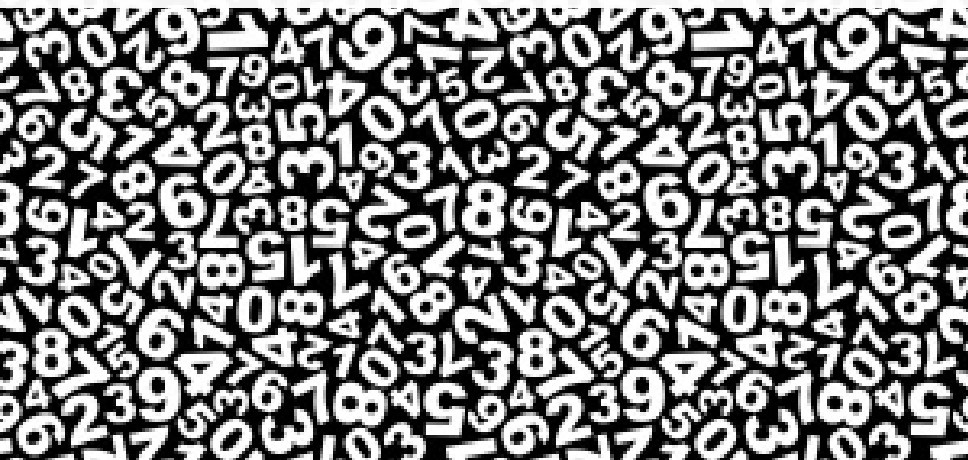
Take the “right” classes:

- most advanced courses available; second semesters of real analysis and algebra;
 - honors classes;
 - topics classes;
 - reading projects.

The background of the image is a dense, repeating pattern of numbers (0-9) in a serif font, rendered in white against a black background. A horizontal white band runs across the middle of the image, containing the text "Try to raise your GPA." in a bold, black, sans-serif font.

Try to raise your GPA.

Get some "research" experience:



Get some "research" experience:


- official REU;
- REU that you design;
- Budapest Semesters;
 - Senior project.

Be active in the community:



Be active in the community:



- join the math club and awm;
 - math competitions like Putnam (practice);
 - give a talk.
- 

The GRE

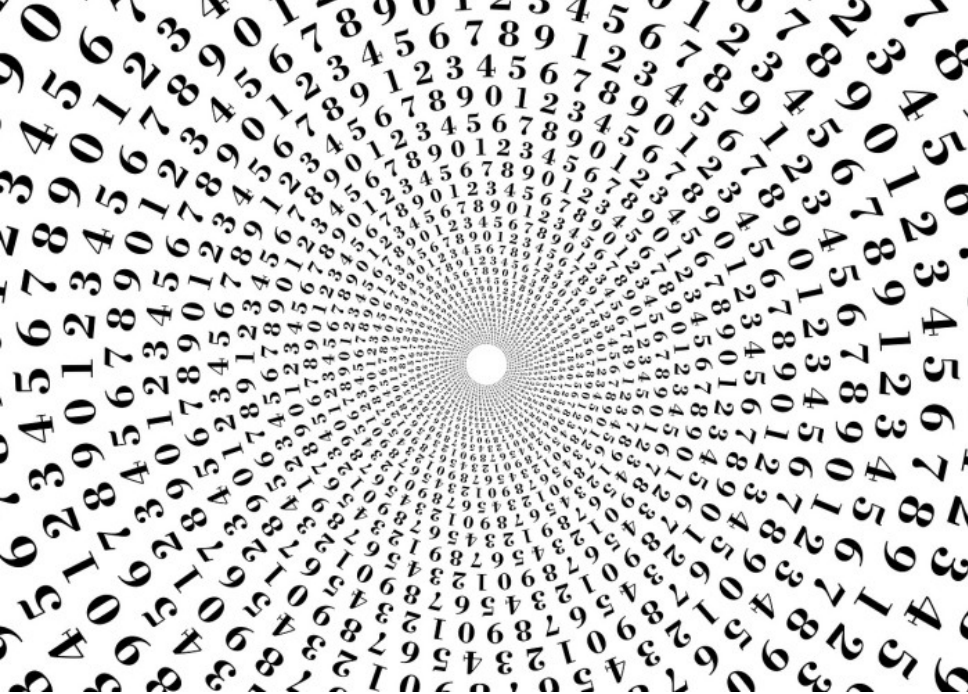
- you need to prepare: come up with a time plan, a study plan, organize practice tests;
- if possible, take the GRE in your junior year so you can retake it.

Letters of recommendation:

- ask early, meet with, bring documents;
- send reminder 3 weeks prior to due date, remind again one week before due
 - explain where and why
- ask for advice about where else.

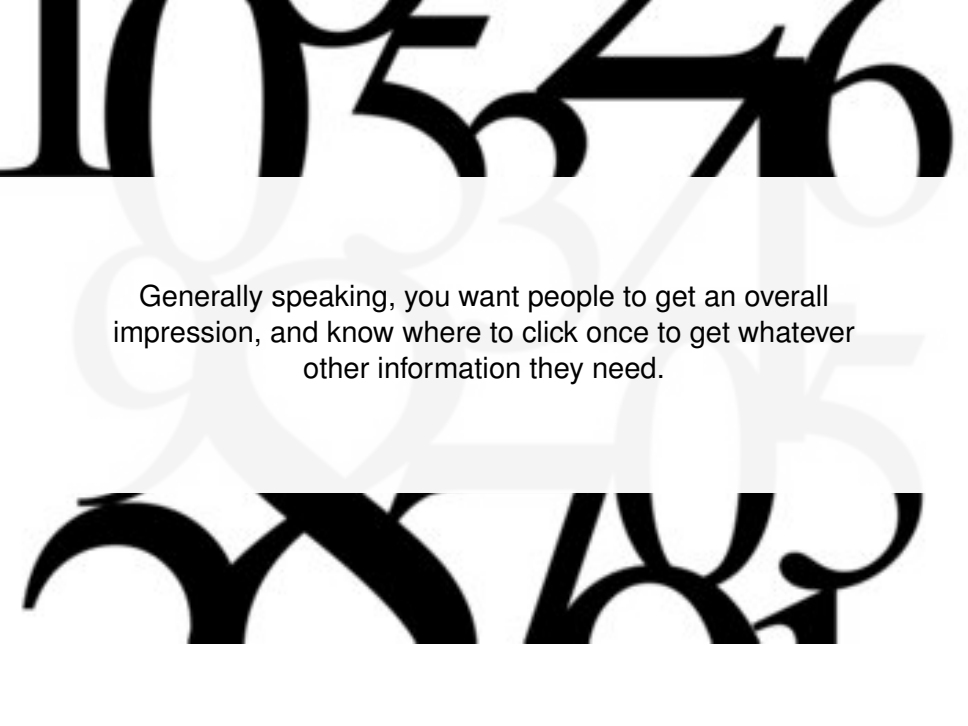


Apply for outside grants: NSF (National Science Foundation),
NDSEG (National Defense Science and Engineering Graduate
Fellowships).

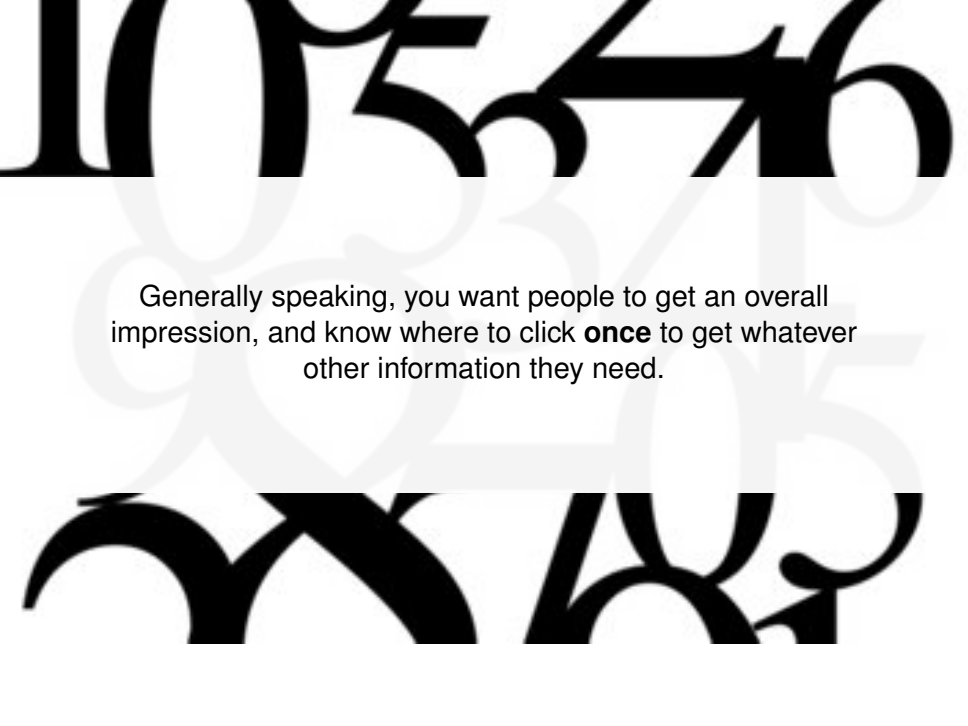




CONSIDER A PROFESSIONAL WEBSITE.



Generally speaking, you want people to get an overall impression, and know where to click once to get whatever other information they need.






Generally speaking, you want people to get an overall impression, and know where to click **once** to get whatever other information they need.



You may have a great website, but if there is too much to read,
then it might get missed.





- 
- 
- Think bullet points, rather than paragraphs;
 - Organization matters.
- 



1 2 3 4 5 6 7 8 9

Good website design can help characterize you as technically competent, and as professional. With free tools available, this is very simple to achieve.



0 1 2 3 4 5 6 7 8 9

The background of the slide is a light gray surface covered with numerous 3D-rendered numbers in various sizes and orientations. Some numbers are sharp and prominent, while others are faded and blurry, creating a sense of depth. The numbers include digits from 0 to 9, as well as some symbols like a plus sign and a percent sign.

**There are a number of free ways to make a website,
for example using:**

The background of the slide is a light gray surface covered with various 3D-rendered numbers in a darker gray color. The numbers are scattered across the top and bottom edges, while the center contains a white rectangular area for text. The numbers include digits from 0 to 9, some appearing multiple times and in different orientations.

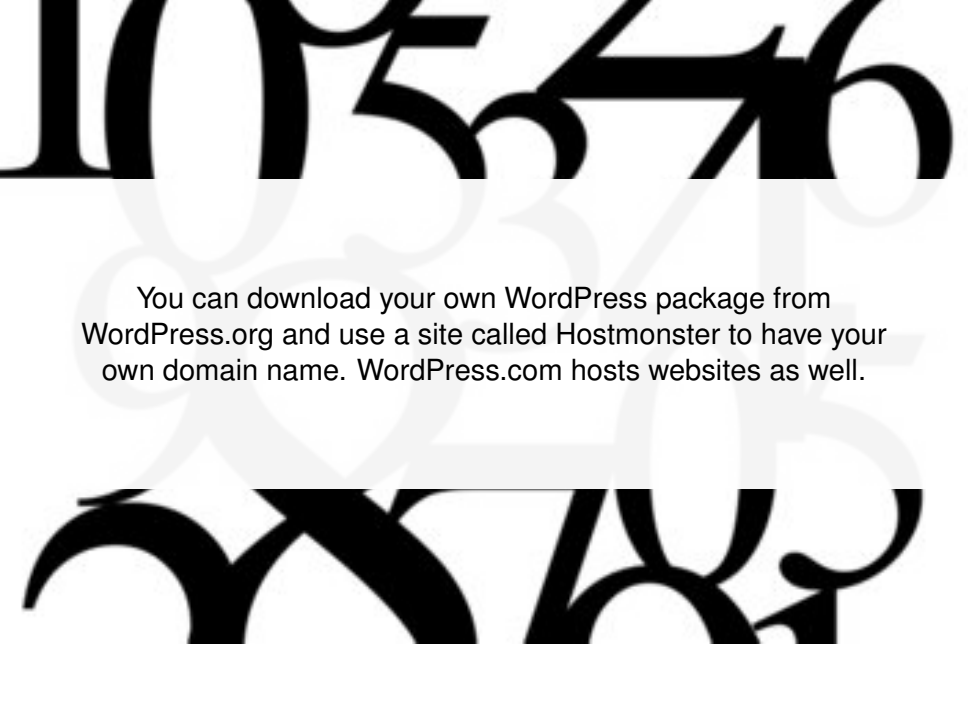
**There are a number of free ways to make a website,
for example using:**

Google Sites


WordPress

Squarespace


Weebly



You can download your own WordPress package from WordPress.org and use a site called Hostmonster to have your own domain name. WordPress.com hosts websites as well.

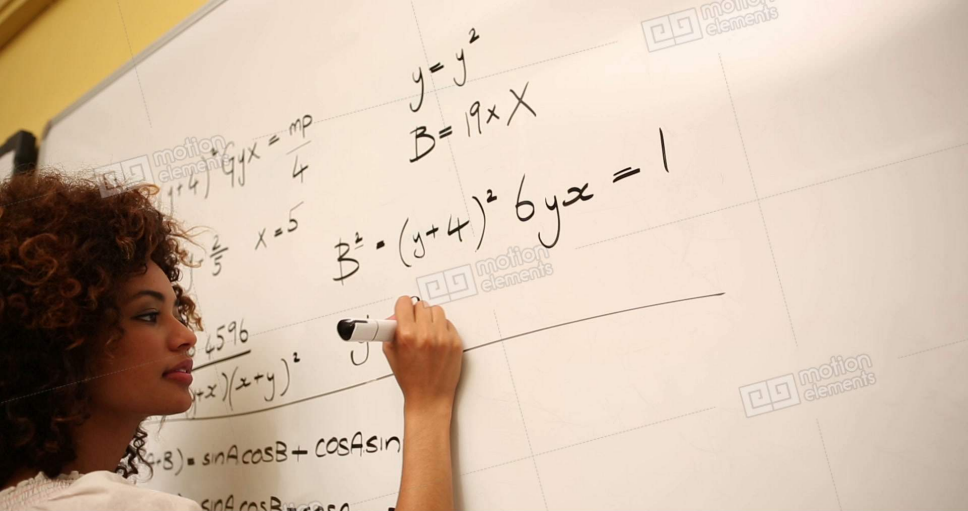
A decorative border at the top of the slide consisting of a dense, overlapping pattern of black numbers (0-9) on a white background, arranged in a slightly curved, perspective-like fashion.

You need to have your CV on your website.

A decorative border at the bottom of the slide, identical to the top one, featuring a dense, overlapping pattern of black numbers (0-9) on a white background, arranged in a slightly curved, perspective-like fashion.



A PHOTO?





And obviously:





And obviously: No inappropriate web photos!!





GOOD LUCK!