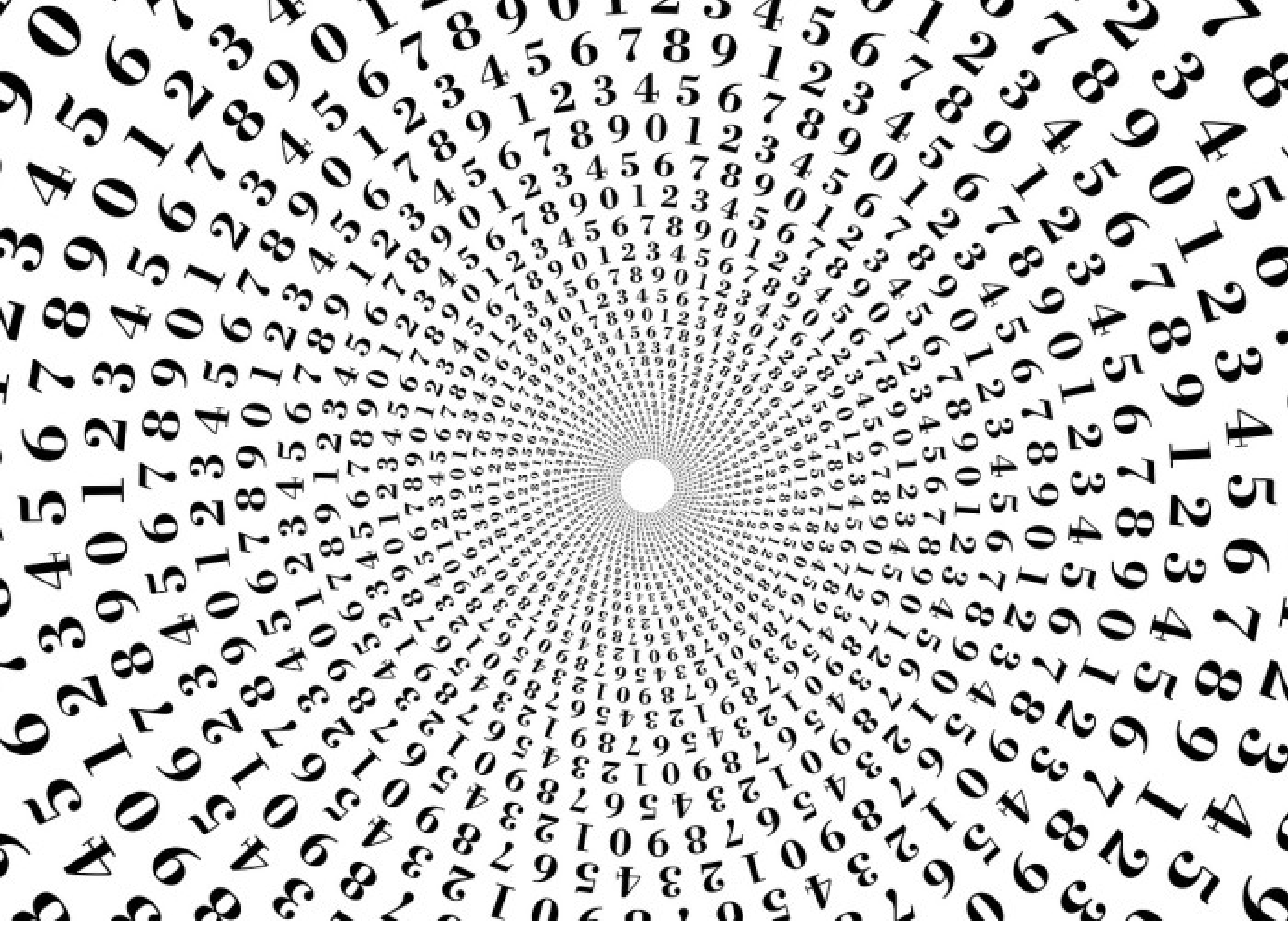
Applying to graduate school

Angela Gibney • UPenn • angela.gibney@gmail.com



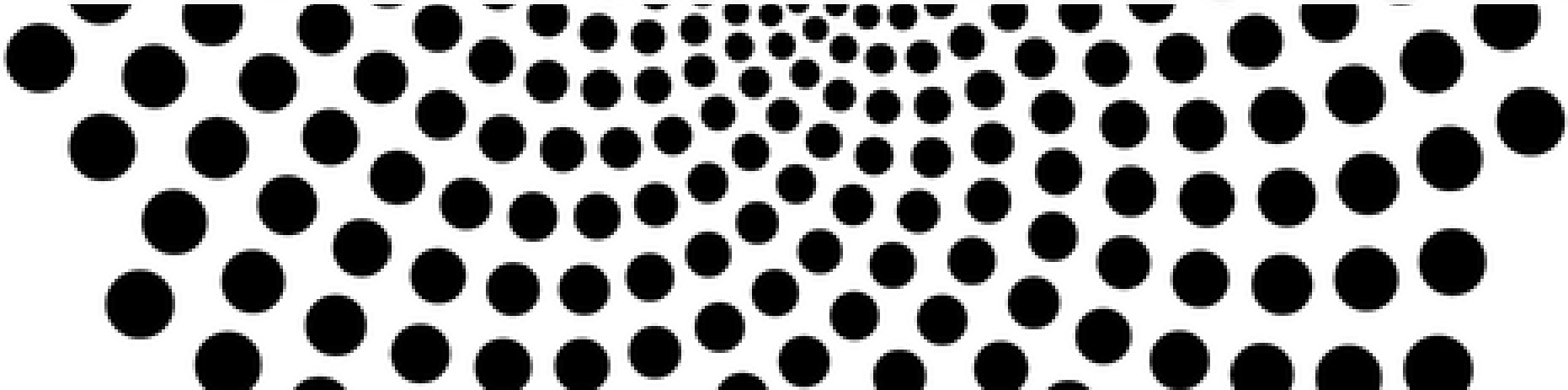

WELCOME!

My goals today are to (1) give you some things to think about when deciding where to apply to graduate school, and (2) help you optimize your applications.

The first question everyone asks:

The first question everyone asks:
How many applications should I make?

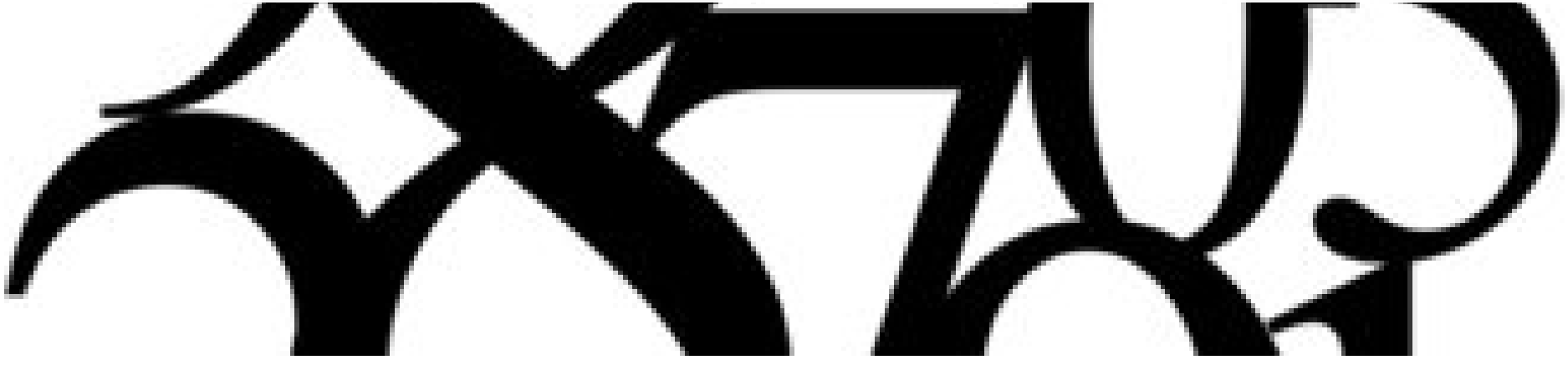
Try to find the **largest number of places** that
(1) you can afford to apply to



Try to find the **largest number of places** that
(1) you can afford to apply to
(ask about fee waivers)

Try to find the **largest number of places** that
(1) you can afford to apply to
(ask about fee waivers) and
(2) would be a good fit for you.

Where should you apply for graduate school?



Ask yourself a number of questions, starting with:

Ask yourself a number of questions, starting with:

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

Ask yourself a number of questions, starting with:

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

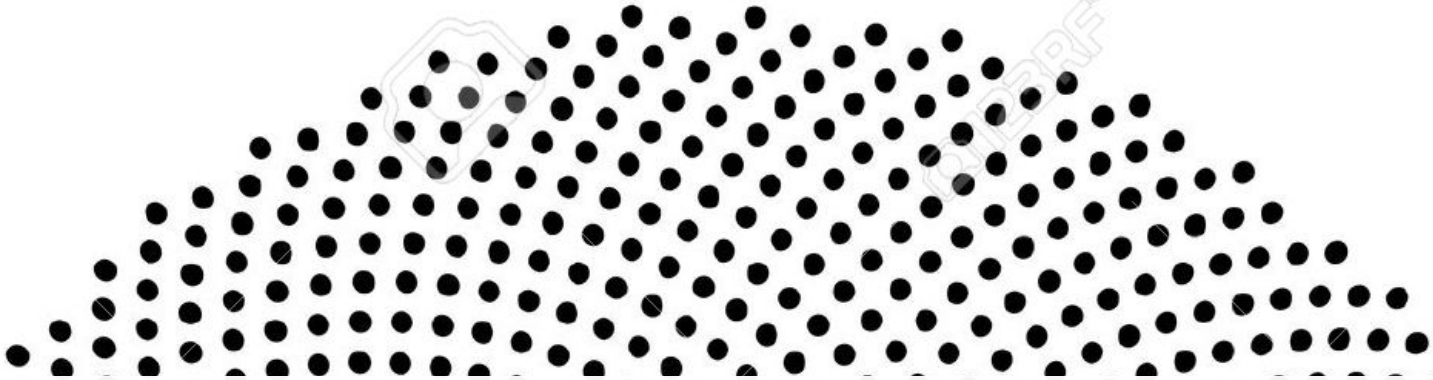
or

Ask yourself a number of questions, starting with:

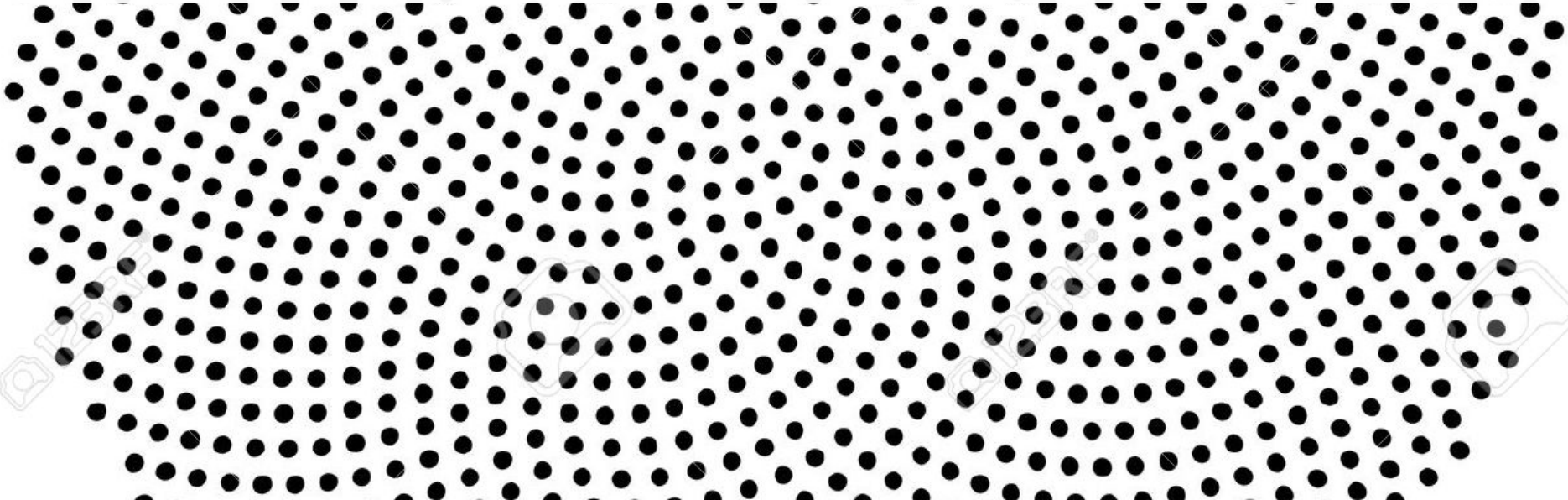
- Where do I want to spend the next 5 years?

or

- Where do I want to spend the rest of my life?



Optimize for success



- What do I want the first year or two of grad school to be like?

- What do I want the first year or two of grad school to be like?
- Do I prefer personal attention from faculty or learning on my own or in study groups?

Feel like you need more background? Consider programs:

Feel like you need more background? Consider programs:

- with 1-2 years of required coursework;
- that don’t require immediate specialization;
- that offer many classes and **seminars**.

Go to seminar talks? Why?

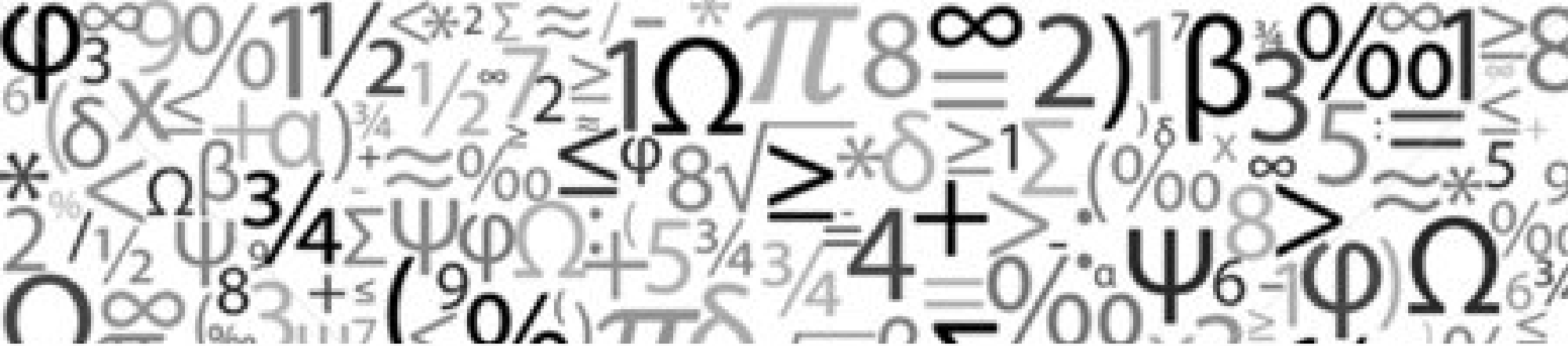
Go to seminar talks? Why?

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

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?.



In what area do I plan to focus?

Not settled on an area of focus? Consider programs:

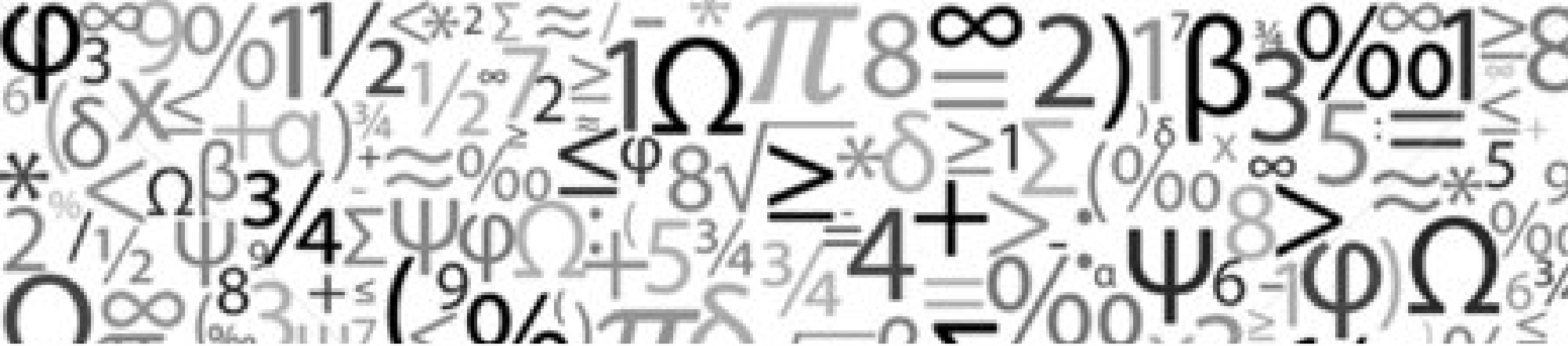
Not settled on an area of focus? Consider programs:

- with area diversity;
- that don’t require immediate specialization;
- that offer many classes.

Set on an area of focus? Consider programs:

Set on an area of focus? Consider programs:

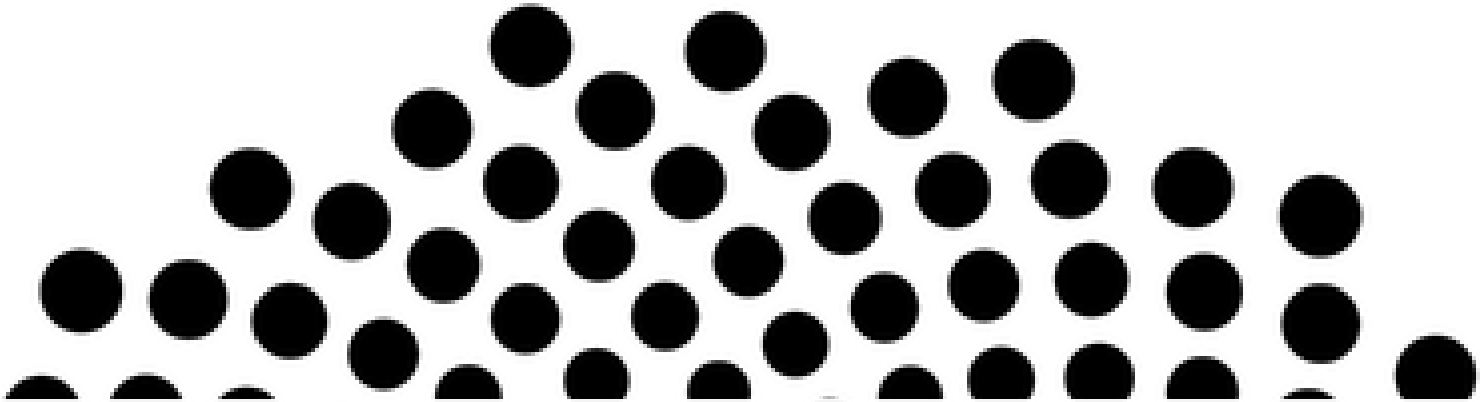
- with at least two researchers in that area;
- with researchers in related areas;
- with current graduate students in that area.



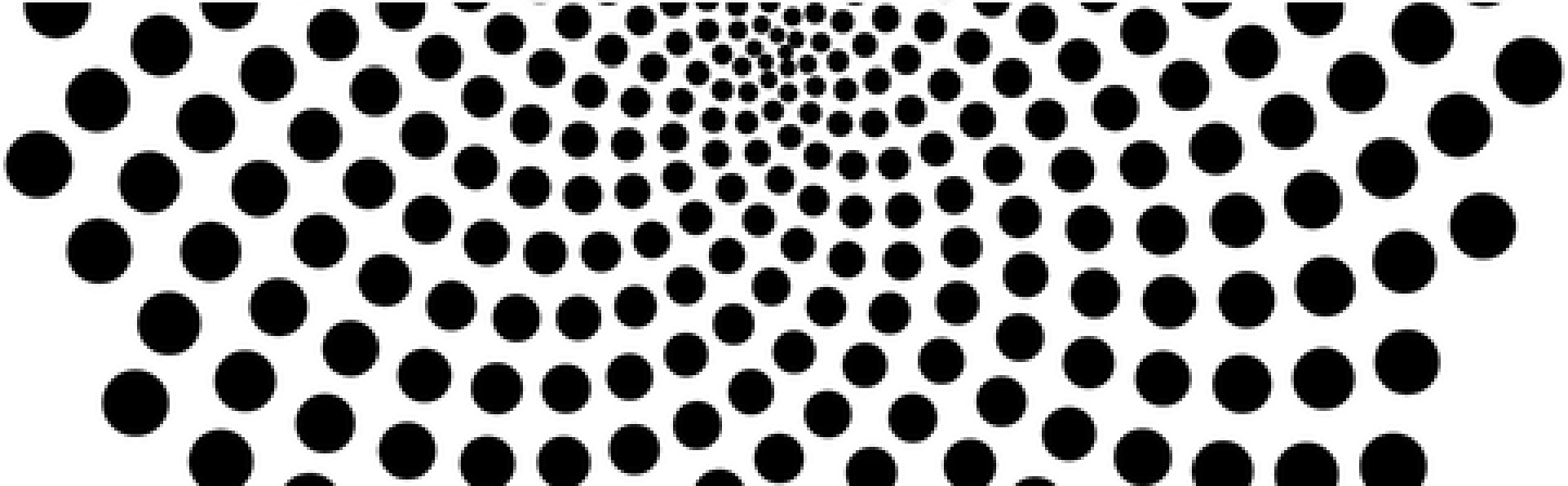
There are many more questions to ask:

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

Consider different areas of the country than your undergrad institution



Big department or small department? Does it matter?



A small department like Penn can have advantages:

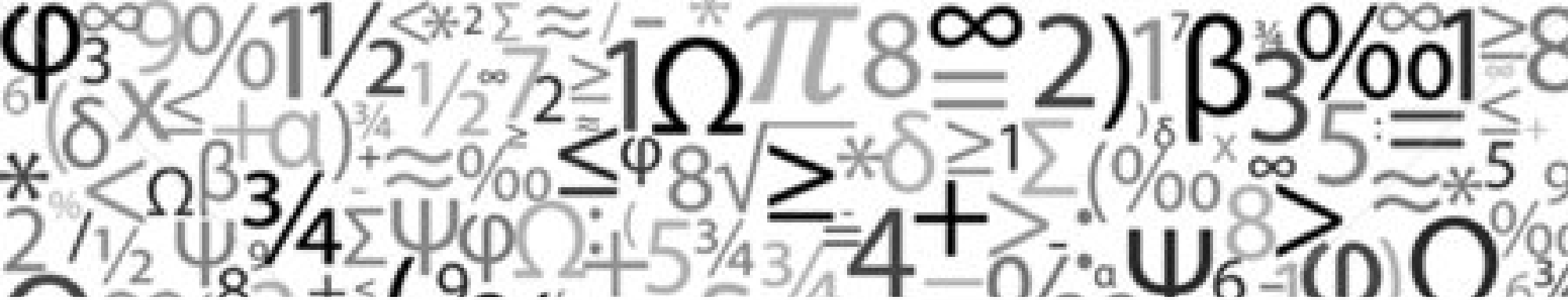
A small department like Penn can have advantages:

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

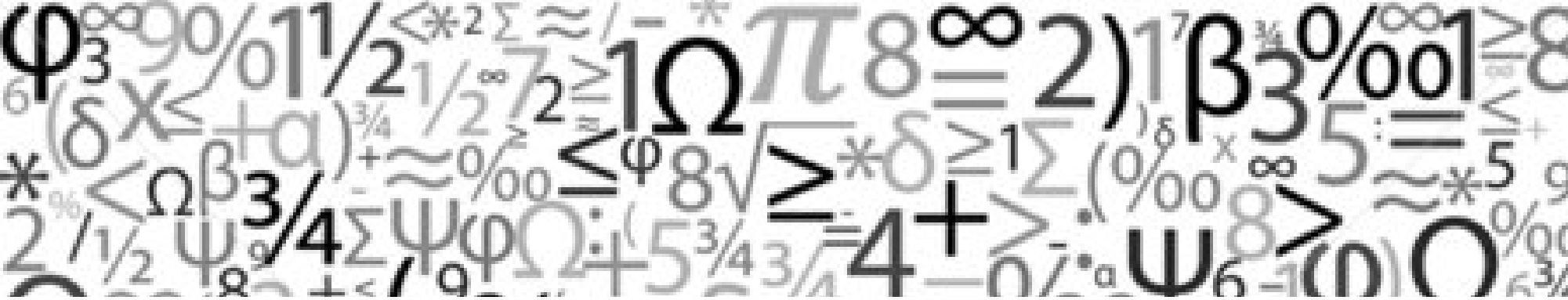
A large department can have advantages:

A large department 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.



How can you answer these questions?



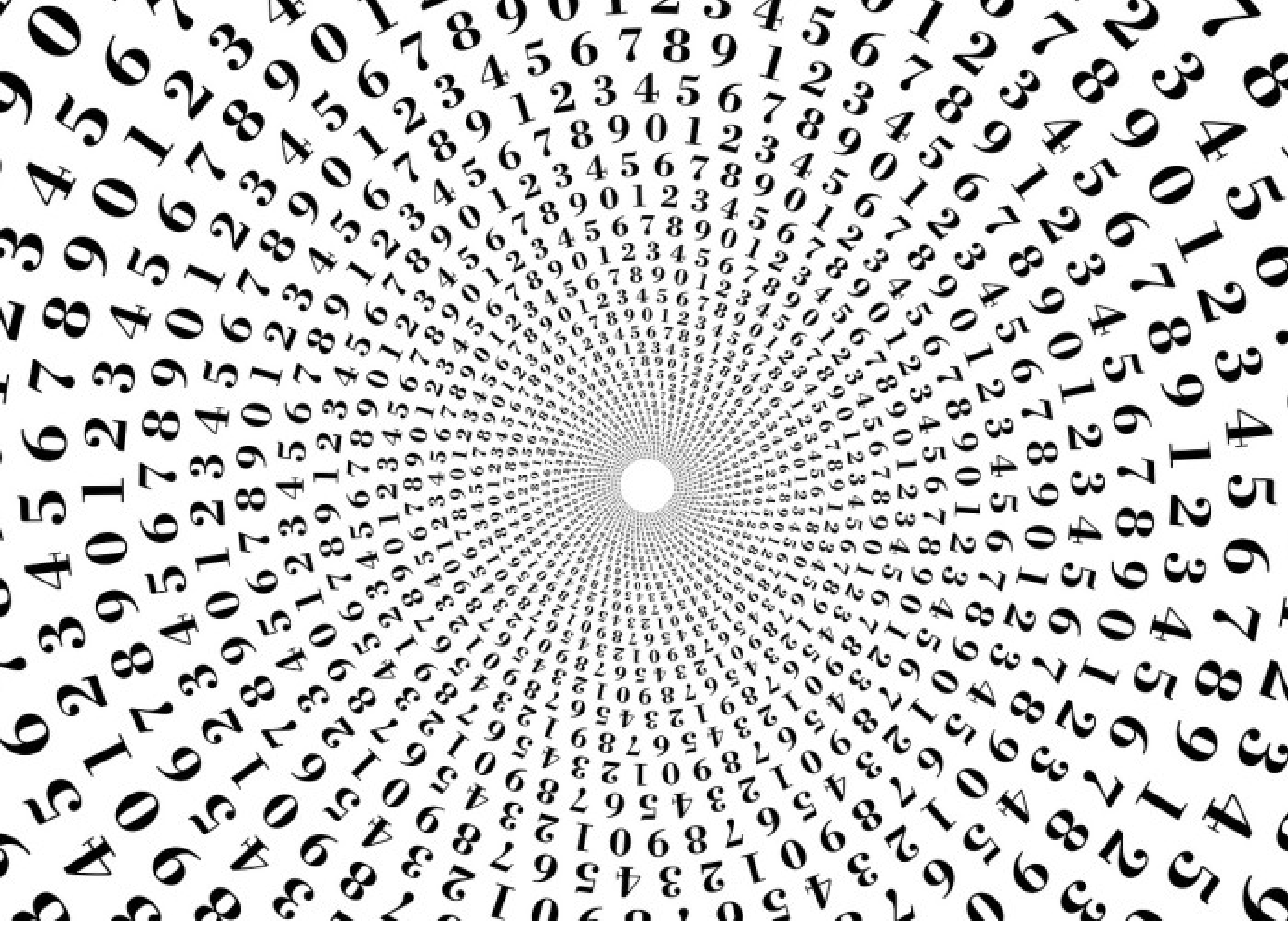
How can you answer these questions?

Websites will give information on expectations, courses, and seminars. Graduate directors can answer questions.

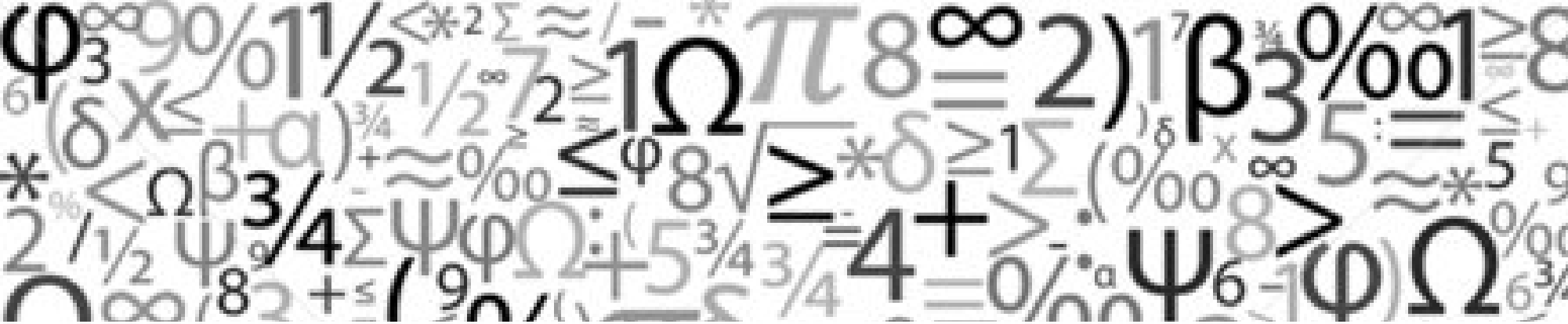
To get a feeling for faculty at other departments, and the math community, follow some blogs and look at websites:

- Michigan: Karen Smith and Dave Speyer https://sites.lsa.umich.edu/math-graduates/author/kesmith/; http://sbseminar.wordpress.com;
- Wisconsin: Jordan Ellenberg https://quomodocumque.wordpress.com;
- UCLA: Burt Totaro and Terry Tau 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.

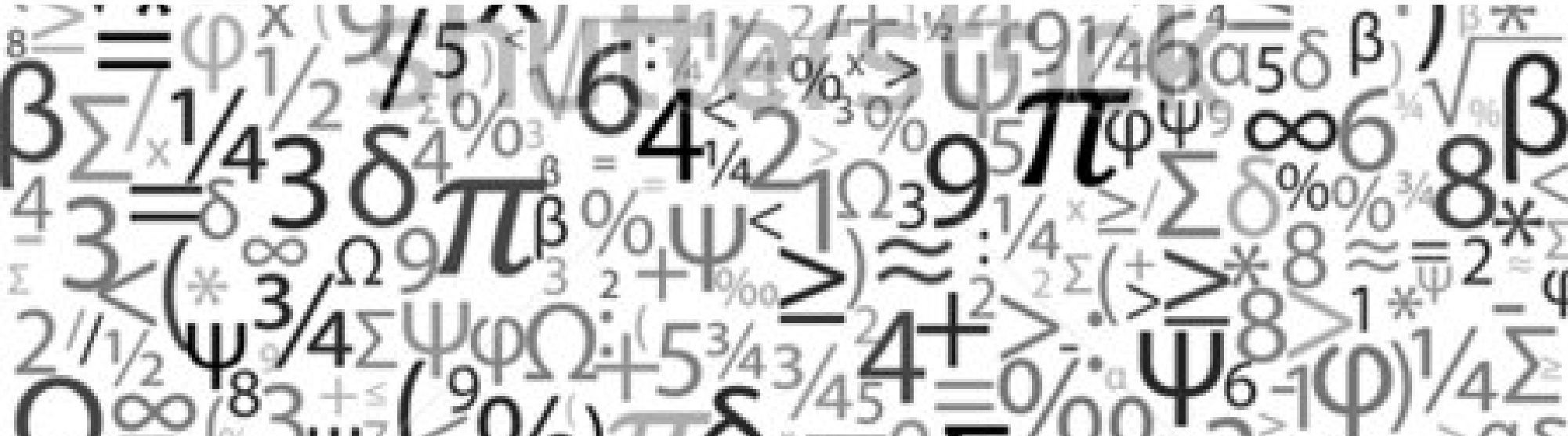



RANKINGS?



Here is the US News and World Report ranking:

http://bit.ly/2m7Jl2rrank

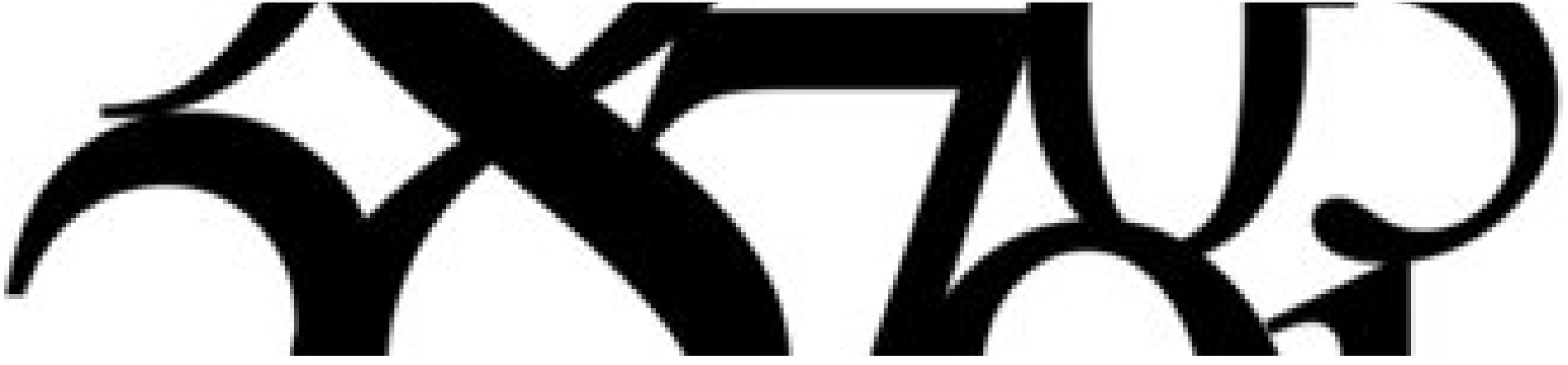


- R1, R2, R3 (what does this mean?);
- there are rankings among fields that you don’t see in the usual lists;
- the teaching experience offered/required can be very different.

Apply to a range. Don’t get your heart set.

Apply to a range. Don’t get your heart set.
There is randomness in the admissions process.

How can you optimize your applications?



$$\underline{A} + \frac{1}{2\omega} I^2 + J g^2 (\cos p - 1) + \varepsilon f(a)(\cos p - 1) + \varepsilon' n($$

time elapsed

$$\Delta \underline{\alpha} + \omega t \quad 704.28^2 \left(+ ((\Delta \cdot \Pi \alpha \varepsilon + 5^2 \right.$$

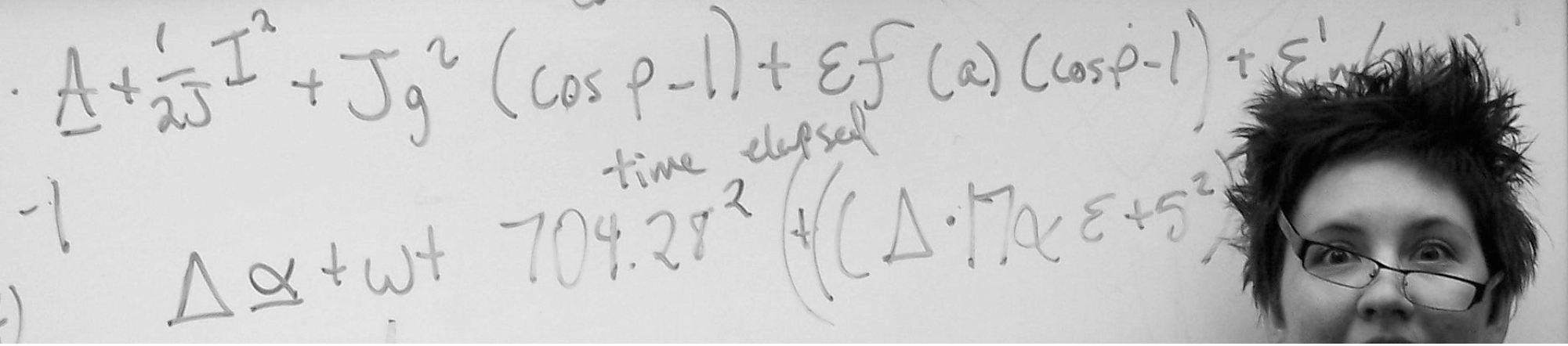
$$b, b' > 0 \quad \left(b = 2, b' = \tfrac{1}{2} - \delta \Delta\right)^{2 \frac{1}{2}}$$

$$\varepsilon \text{ whe}$$

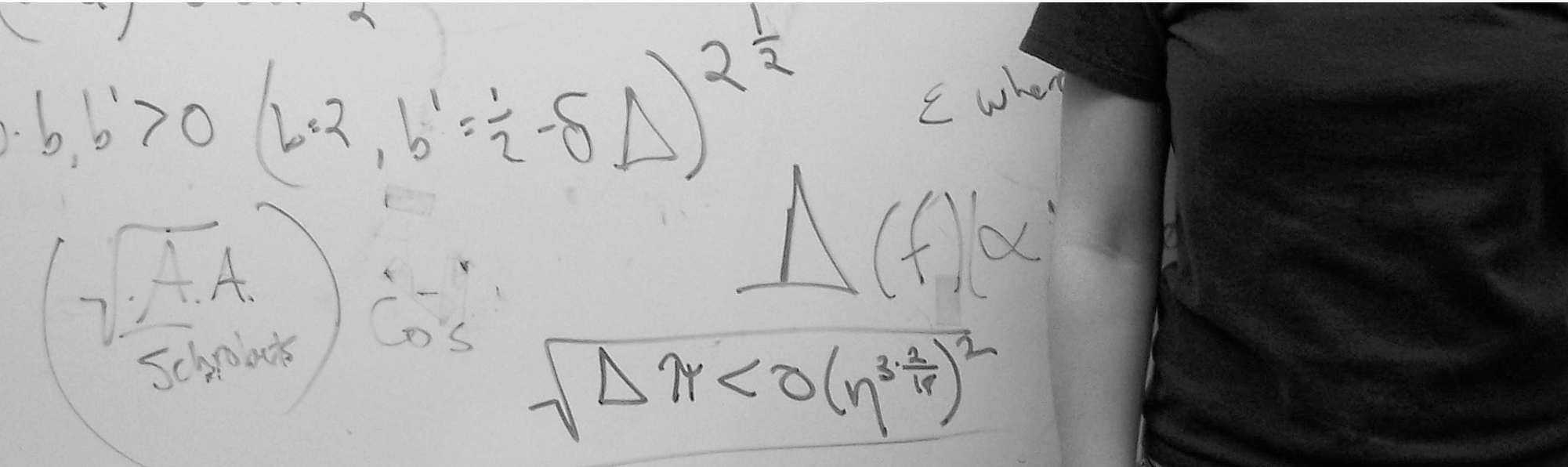
$$\left(\sqrt{\cdot A \cdot A \cdot}\right) \quad \text{Schrödinger's}$$

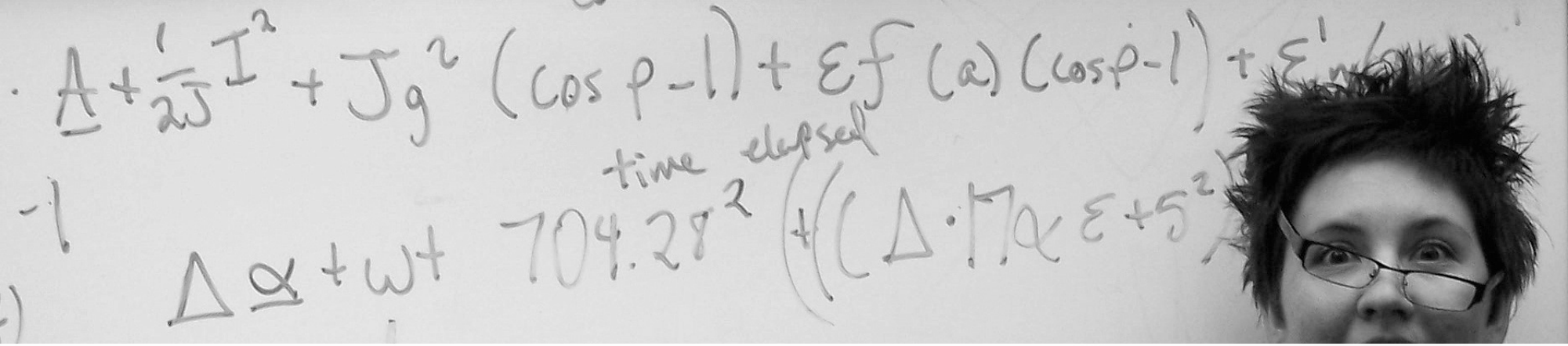
$$\Delta(f)(\alpha$$

$$\sqrt{\Delta \pi < 0 (\eta^{3 \cdot \frac{2}{14}})^2}$$

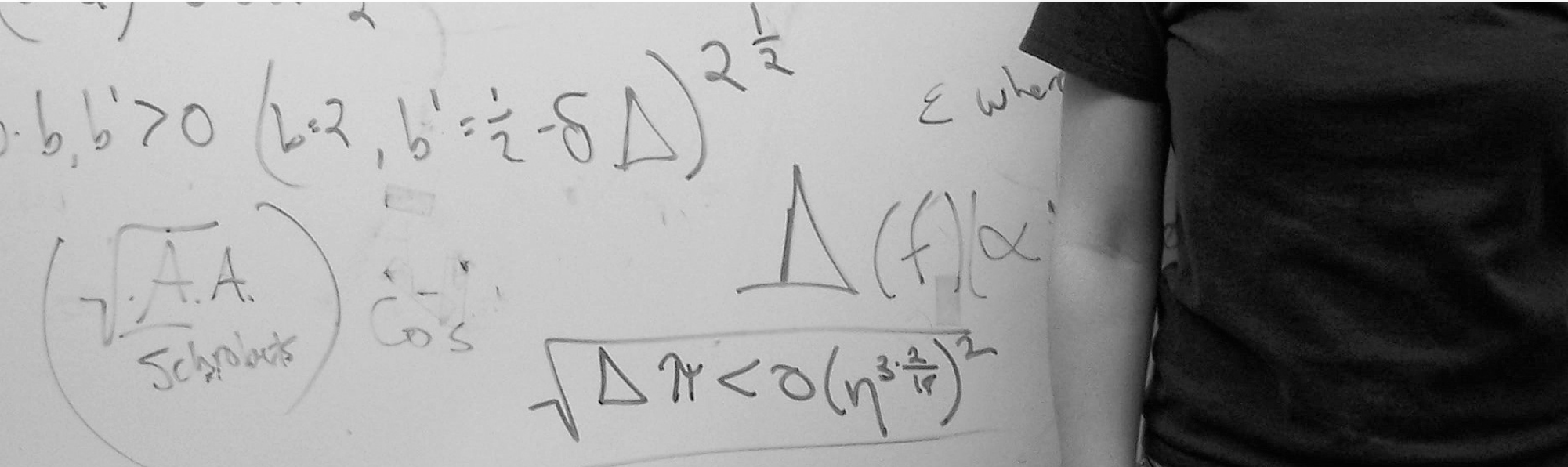


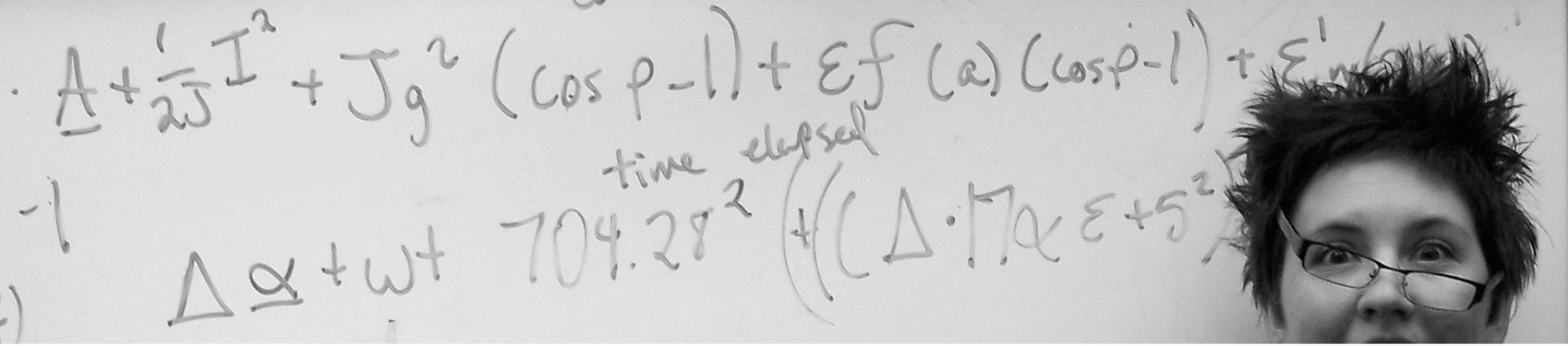
What can you do now?



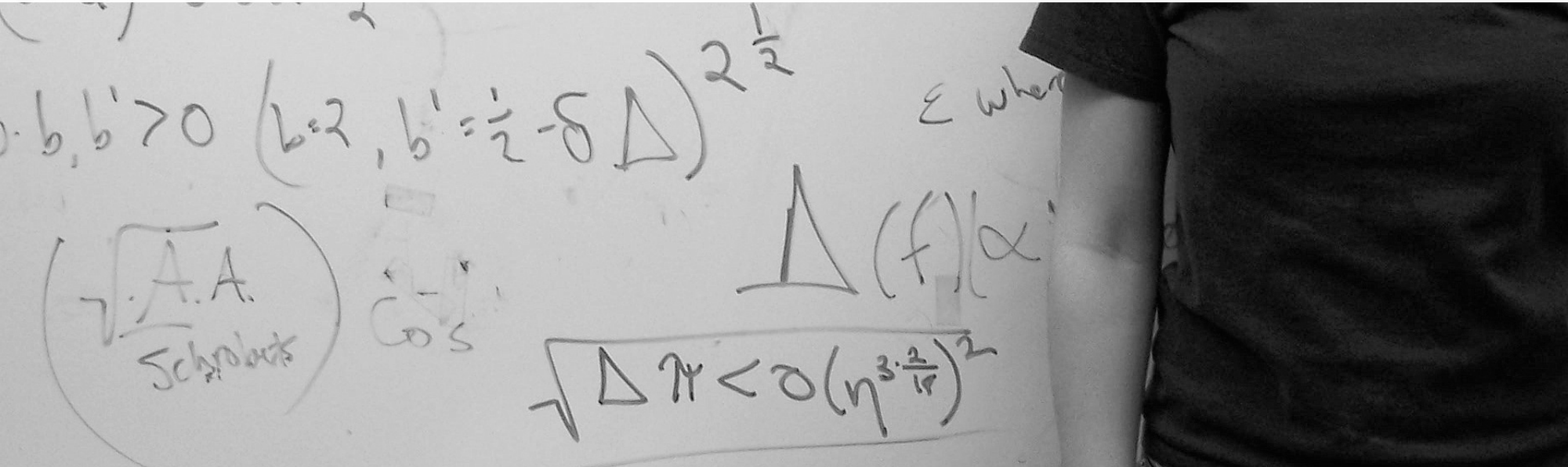


What can you do now? If you have a year?





What can you do now? If you have a year? Two years?



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

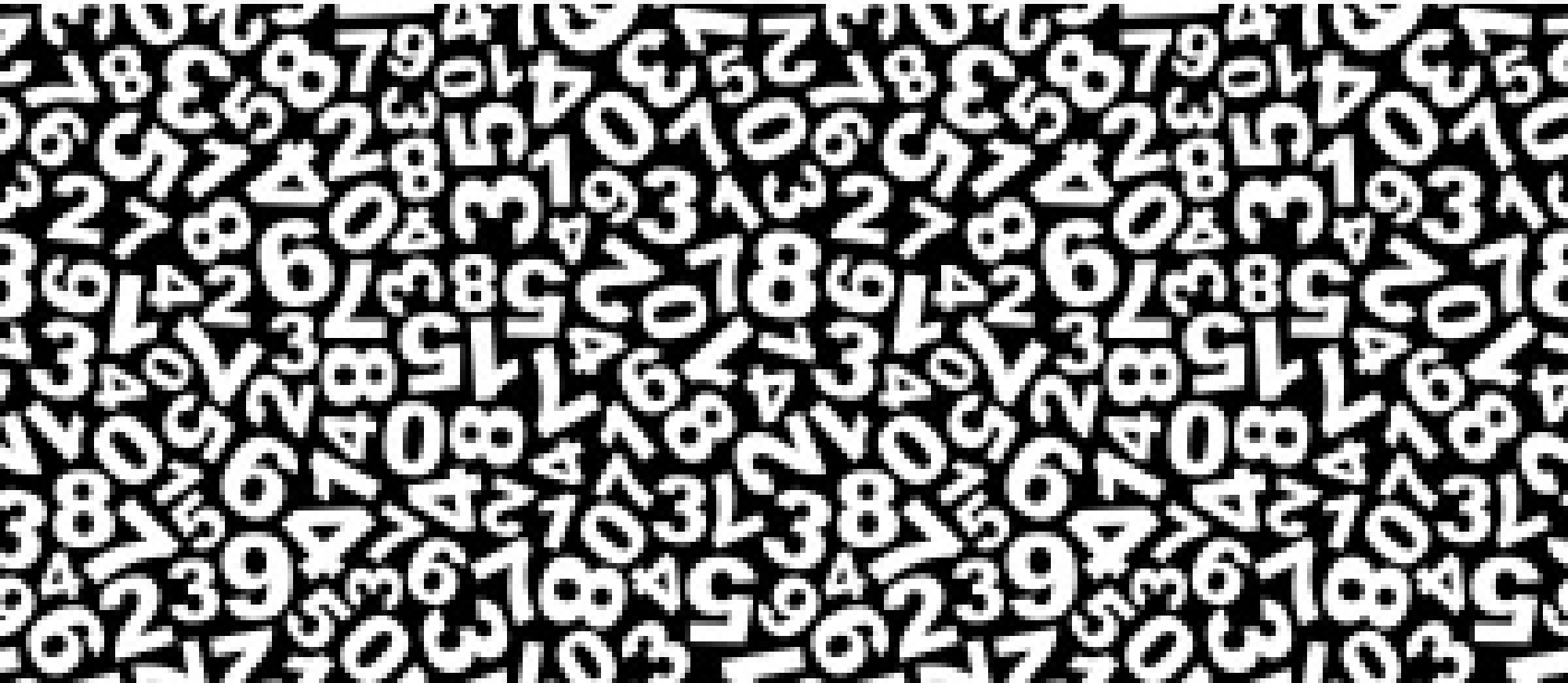
Take the “right” classes:

Take the “right” classes:

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

Try to raise your GPA.

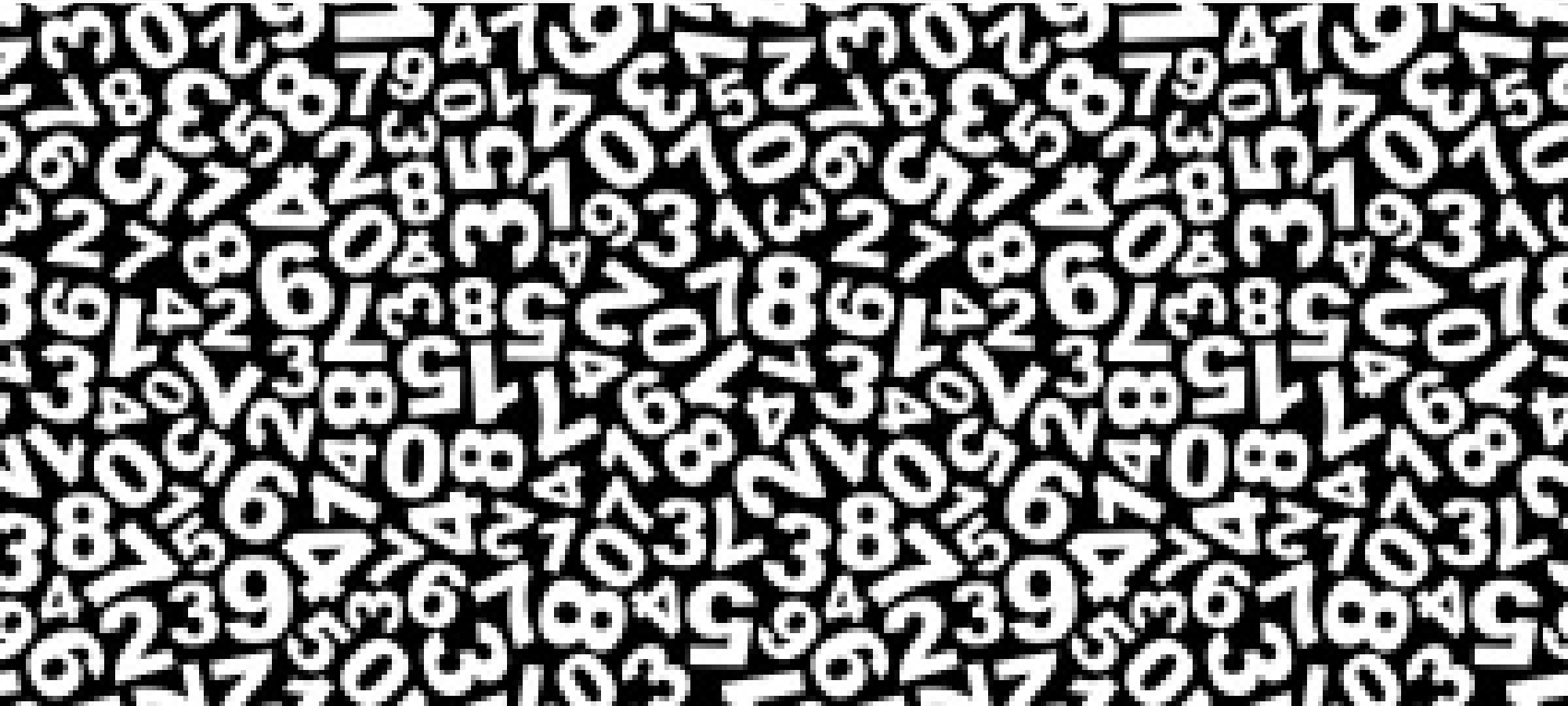
Get some ”research” experience:



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 (give a talk);
take part in math competitions like Putnam;
go to undergraduate math conferences.

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.

Apply for grants

Apply for grants
NSF National Science Foundation,
NDSEG Natl Defense Science & Engineering Grad Fellowships.

What if you are applying this year?

Next: How to optimize your **documents:**
(your CV and personal statement)

Next: How to optimize your **documents:**
(your CV and personal statement),
ask for letters, and do the other stuff.

Make the strongest first impression possible, because people who are reading your CV and your personal statement are busy with many files to get through.

Your CV:

- Think of your audience;
- Order matters (most impressive first);
- Link to papers, programs, and people;
- No Jargon!.

Your CV:

Read it out loud.
Ask everyone you know for feedback.
Revise it and ask again.

Your personal statement is an opportunity to introduce yourself, state that you would like to attend graduate school X, and that you are interested in areas Y, and Z. It also gives you a chance to show that you can discuss a problem.

Your Personal Statement:

Be descriptive and provide details.

Your Personal Statement:

Be descriptive and provide details.
(names of supervisors, description of interesting experiences, problems considered in research programs).

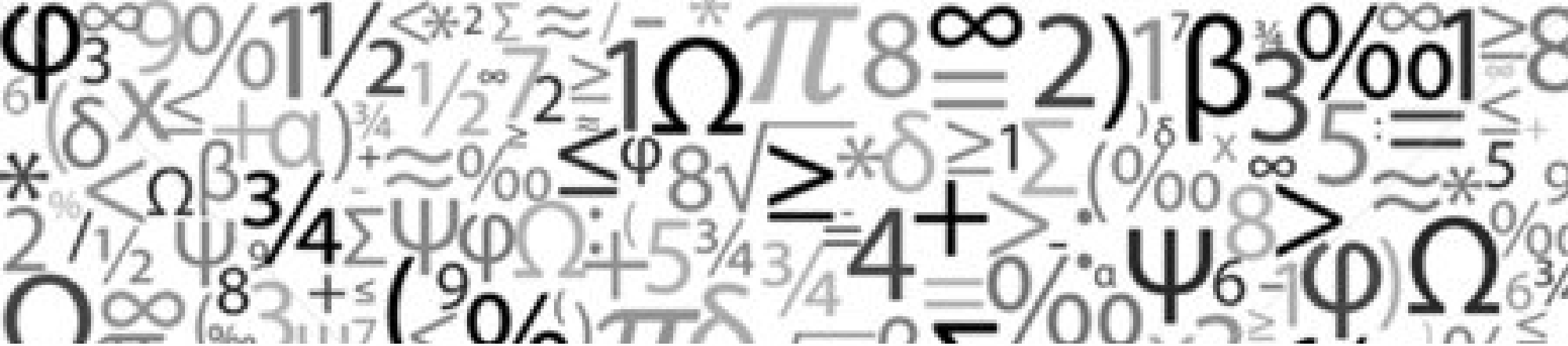
Your Personal Statement:

Read it out loud.
Ask everyone you know for feedback.
Revise it and ask again.

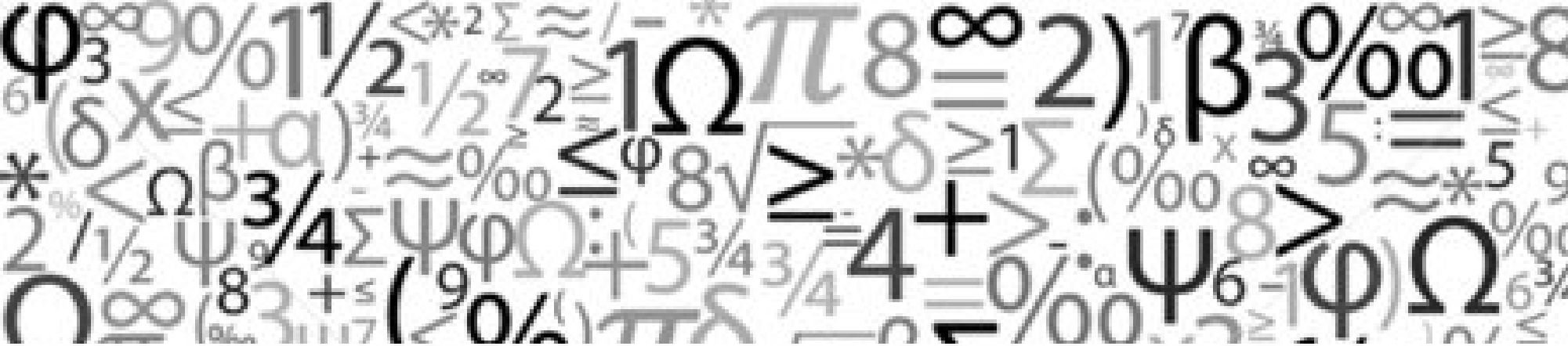
Letters of recommendation:

- ask early, provide 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.

What about **the other stuff**?

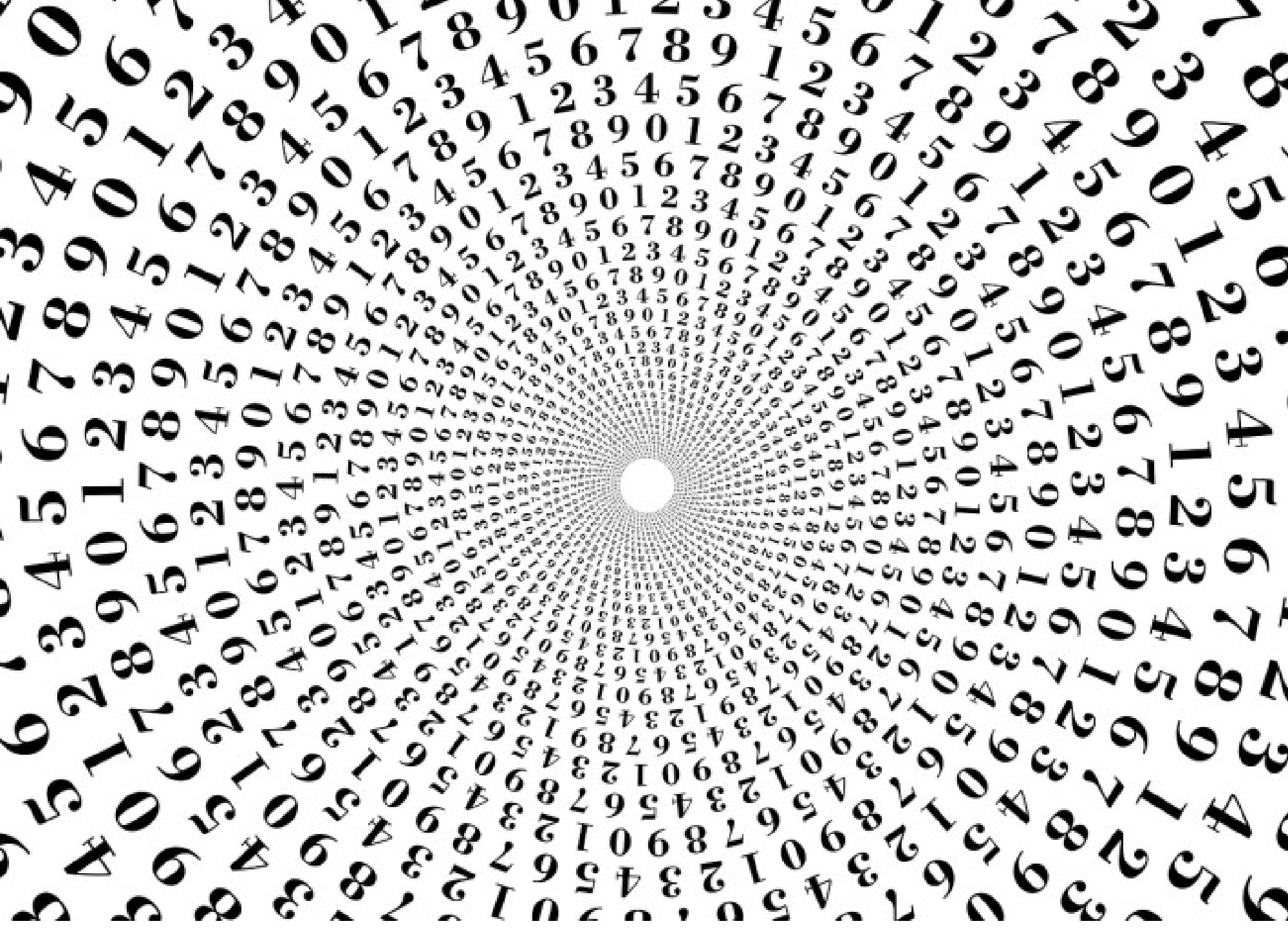


Email faculty to tell them you have applied.



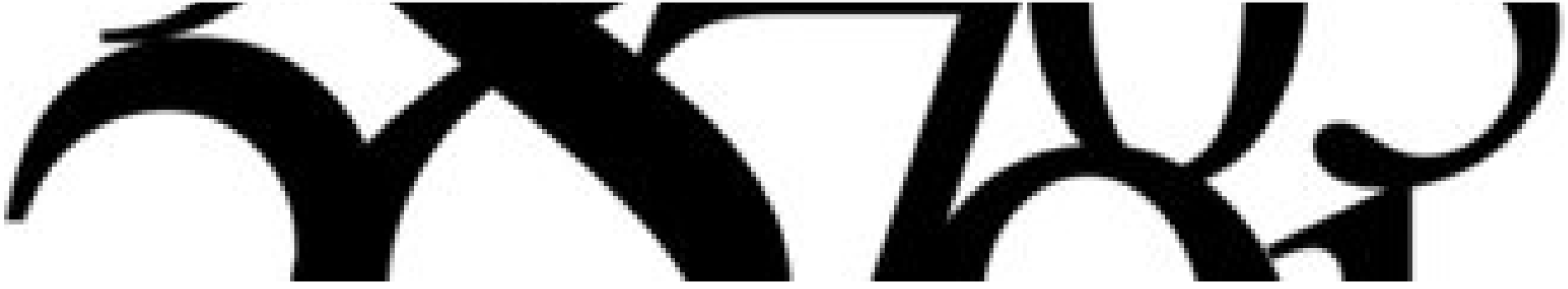
What should go into your email?

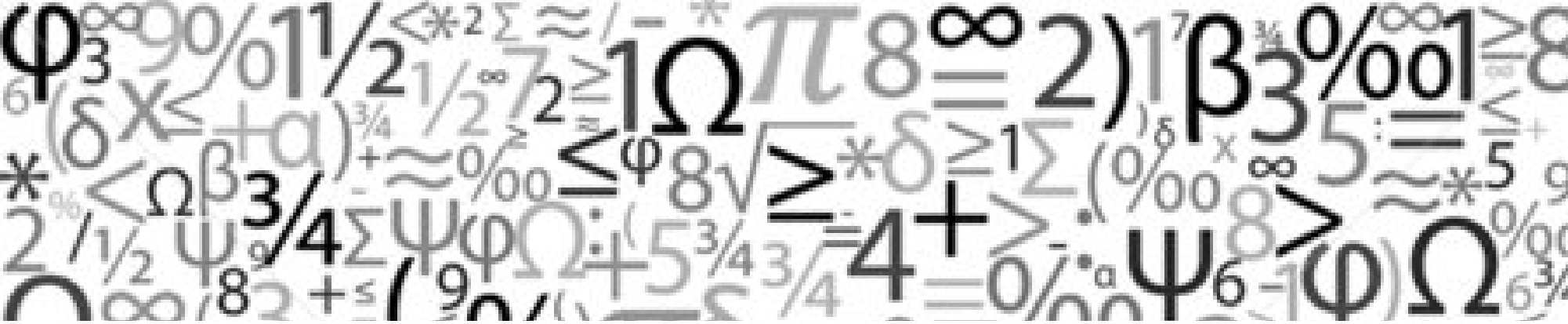
Your email should be a very short version of your personal statement: Introduce yourself, state that you have applied for graduate school at University X and you are interested in areas Y and Z. Attach your **documents** or give a link to your website and say that more information can be found there.



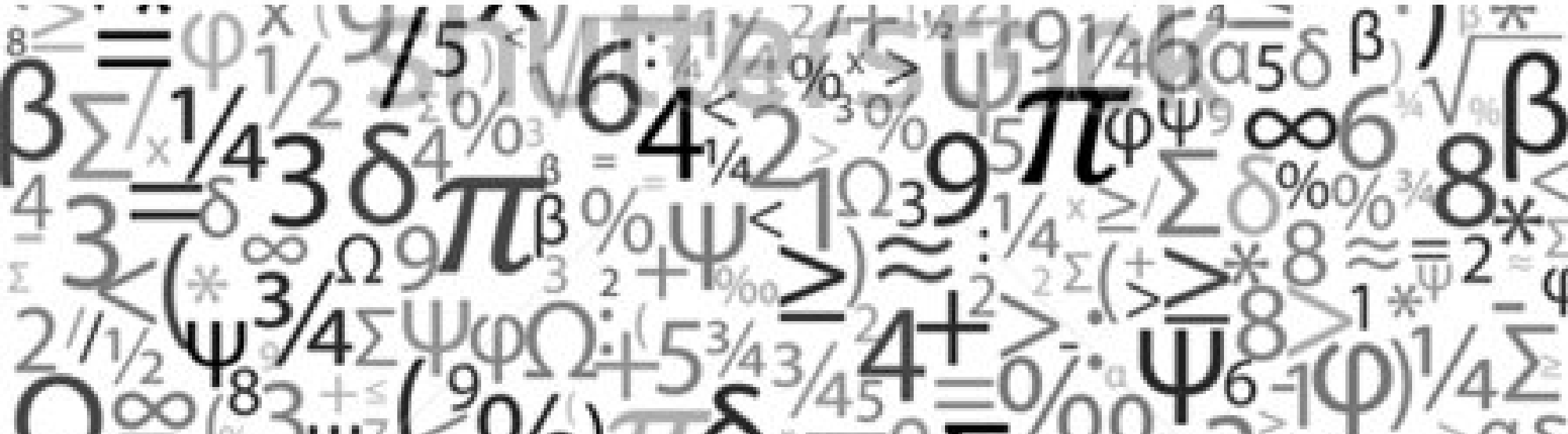

CONSIDER A PROFESSIONAL WEBSITE.

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





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.

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

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

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

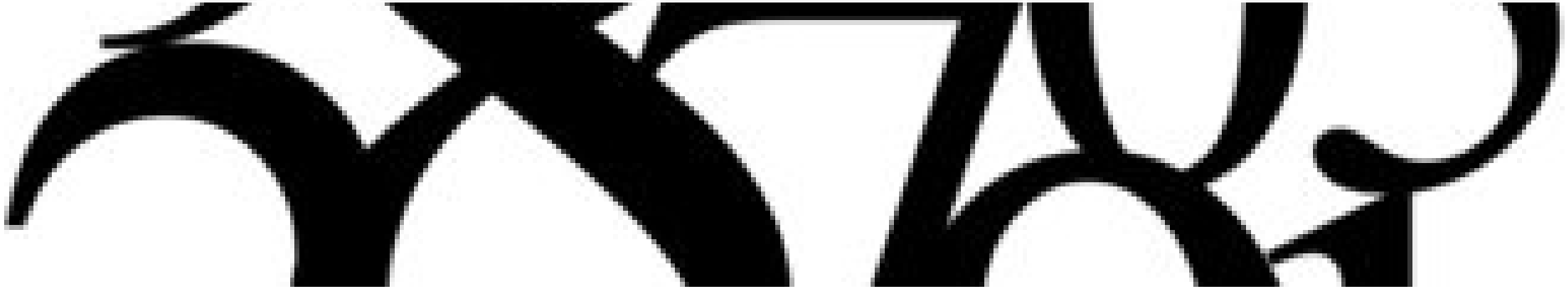
Google Sites

WordPress

Squarespace

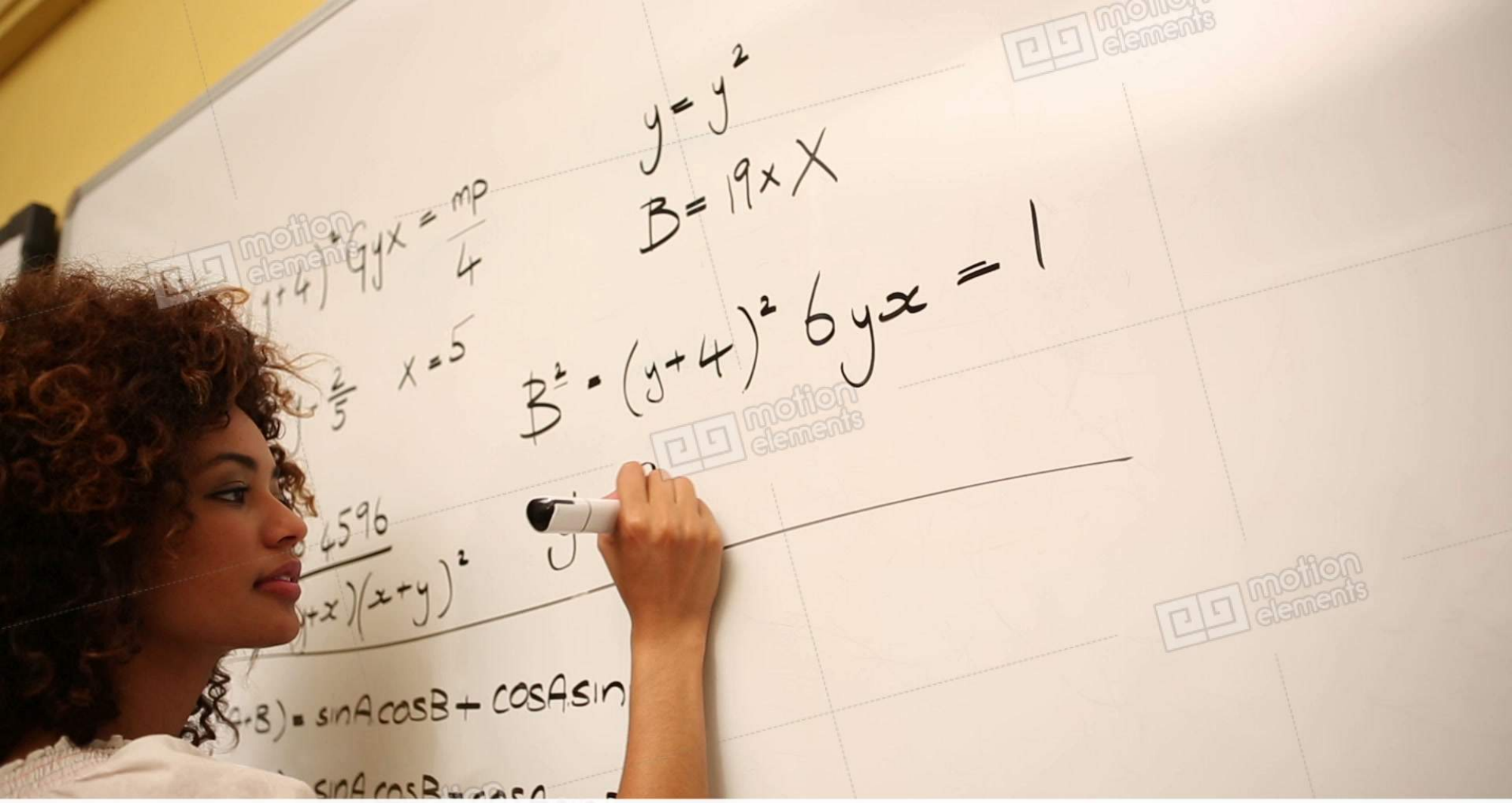
Weebly

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.



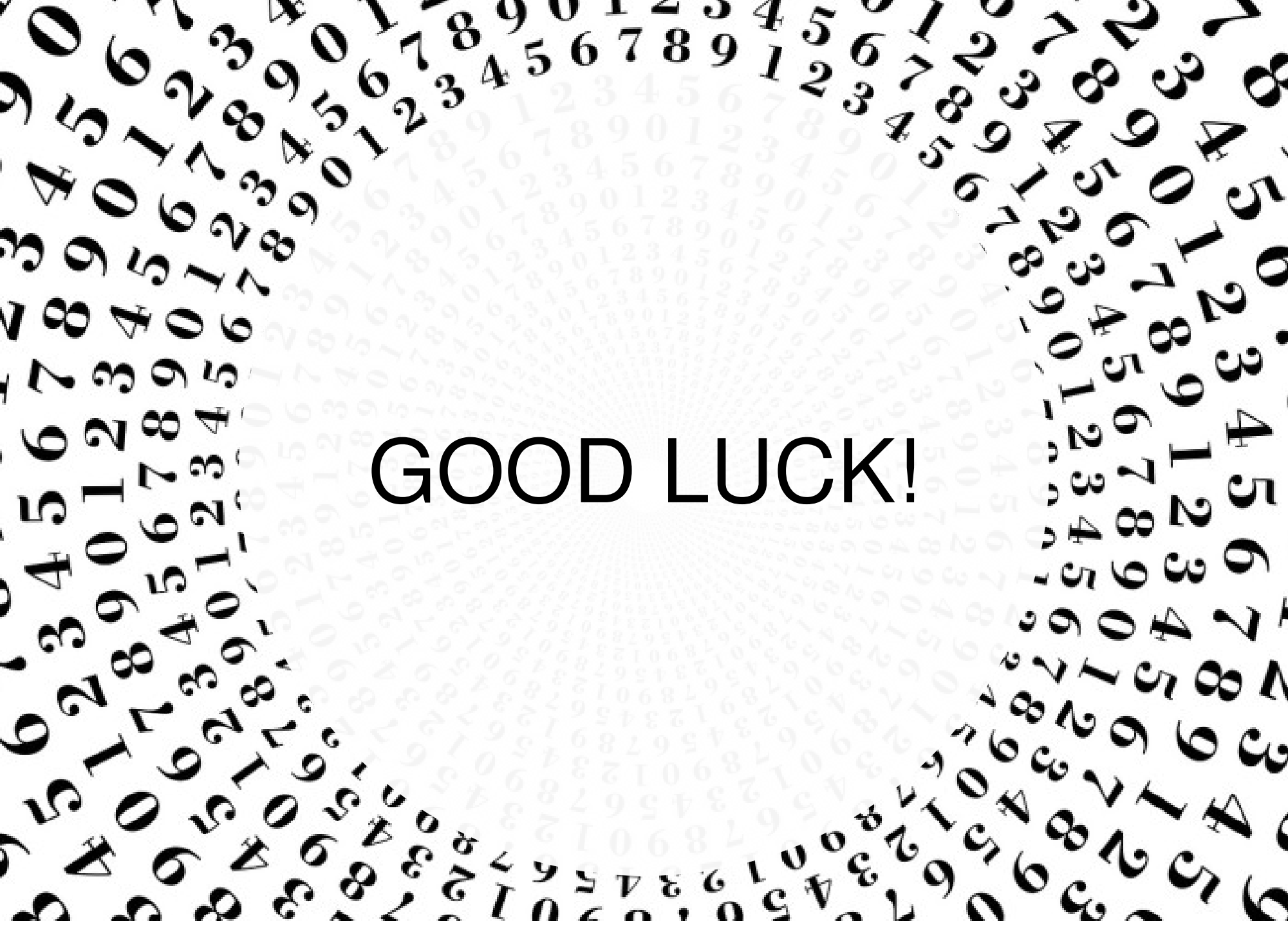

You need to have your CV on your website.


A PHOTO?



And obviously:

And obviously: No inappropriate web photos!!


GOOD LUCK!