

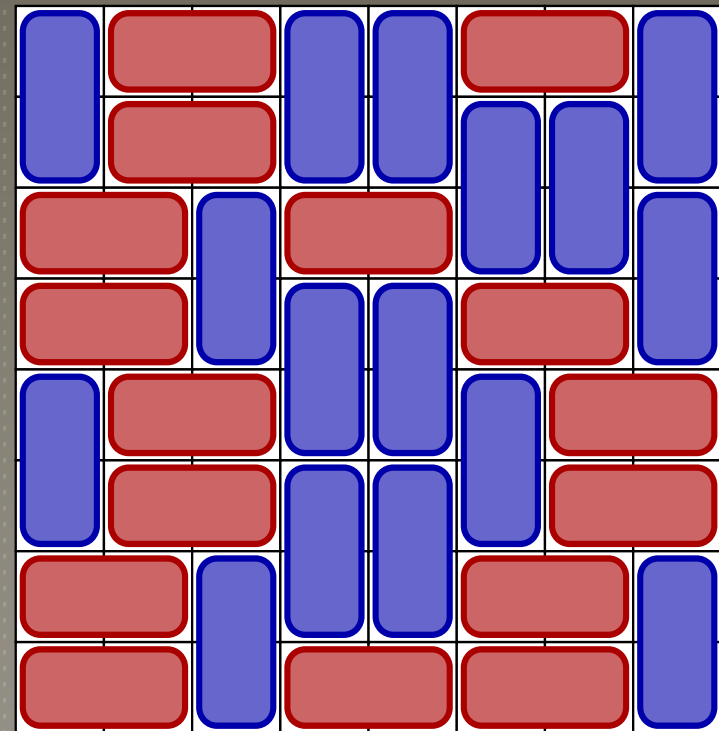
POSTERS YOU CAN COUNT ON

How to manage 25 individual
research projects simultaneously

Christopher R. H. Hanusa
Queens College Mathematics

WHAT IS COMBINATORICS?

- ▶ The material
 - ▶ Better ways to count
- ▶ The course (Math 636)
 - ▶ 25 students
 - ▶ Active learning
 - ▶ Individual Research & Poster Presentation



12,988,816

ACTIVE LEARNING

- ▶ Engaging, inviting classroom
- ▶ Think Pair Share, Groupwork
- ▶ High expectations



(Join our Experiential Learning Group!)

TERM-LONG PROJECT

THE PROJECT

Research a combinatorial question of your choosing and present your findings through a poster.

DELIVERABLES

- ▶ Poster
- ▶ Writeup
- ▶ Checkpoints

IDEA

- ▶ *Apply* topics learned throughout semester
- ▶ Taste of research
- ▶ *Hands On* = Active learning
- ▶ Experience and appreciate the diversity of our students

CHOOSING A TOPIC

- ▶ **Goals:**
 - ▶ Student engagement
 - ▶ Diversity of topics
- ▶ **Complete freedom in topic**
 - ▶ Intimidating!
 - ▶ Interests outside school
- ▶ **Then hone the scope!**
 - ▶ **Grain of an idea**
 - ▶ Experience as a researcher

RECENT TOPICS

- ▶ Running in Central Park
- ▶ Guitar chords
- ▶ Korean Drama plotlines
- ▶ Android lock codes
- ▶ World Cup Soccer

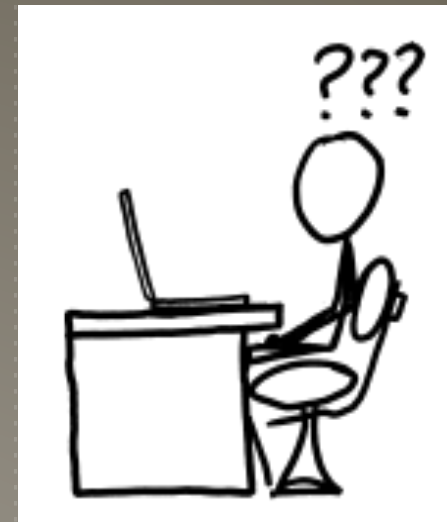
ENSURING SUCCESS

- ▶ Students *invested* in topic
- ▶ Be available. Be flexible.
- ▶ Provide structure, timeline
 - ▶ Week 7: Topic
 - ▶ Week 9: Outline
 - ▶ Week 14: Poster work day
- ▶ Poster Session during Finals Week



SELF REFLECTION

- ▶ Amazing culmination of semester
- ▶ Is there more?
 - ▶ Wider audience?
 - ▶ Research article?
 - ▶ *Should* there be more?
 - ▶ Open to *your thoughts*....



http://whatif.xkcd.com/imgs/a/14/short_answers_headscratch.png

THANK YOU!

qcpages.qc.edu/~chanusa

> **Course Archive**
Plenty of Posters

> **Talks**
Slides Available

- ▶ Binghamton University Center for Learning and Teaching
 - ▶ Institute for Student-Centered Learning Conference.
- ▶ My students, who amaze and inspire, EVERY TIME!