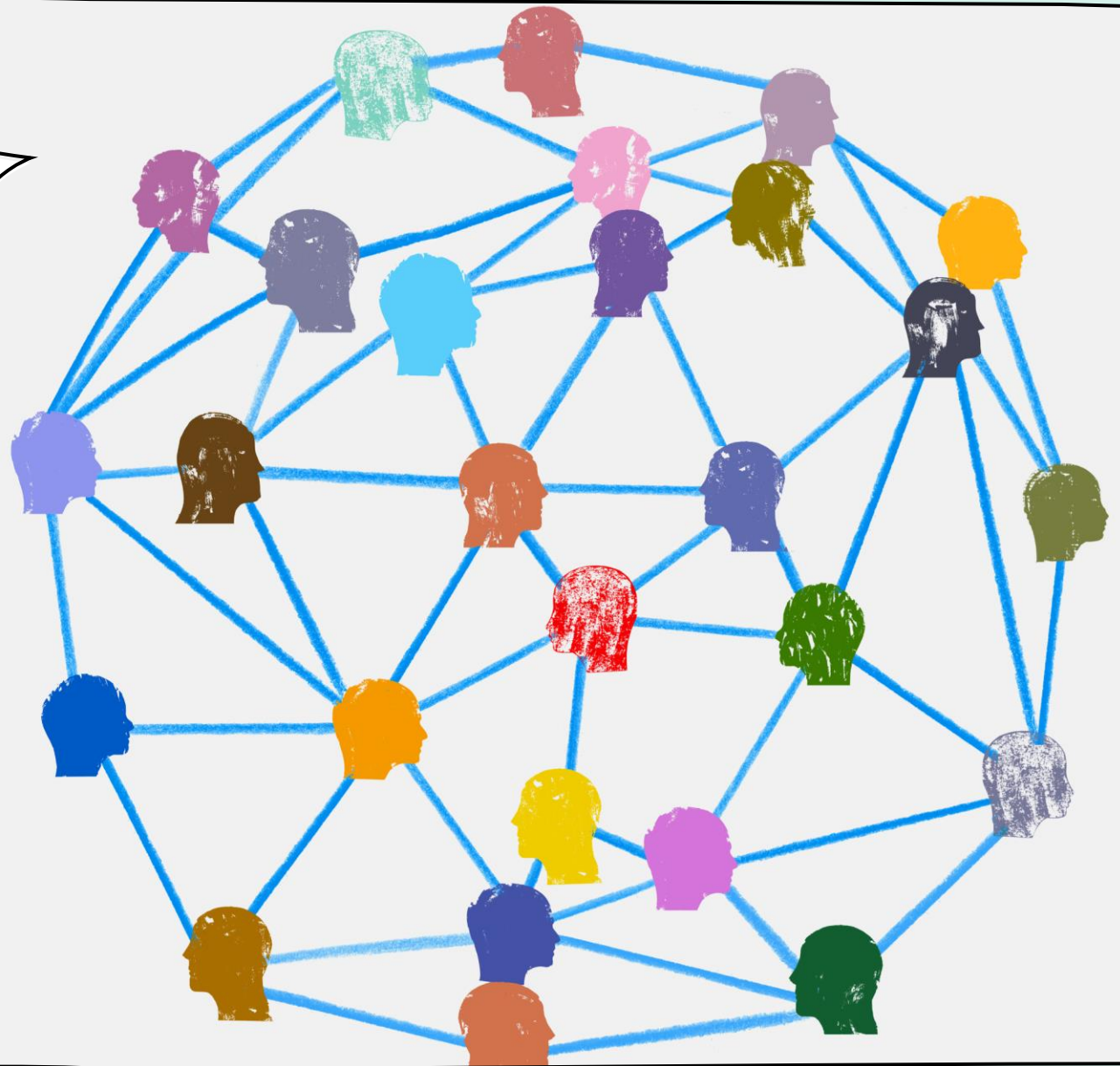


MATHEMATICAL COMIC-MAKING

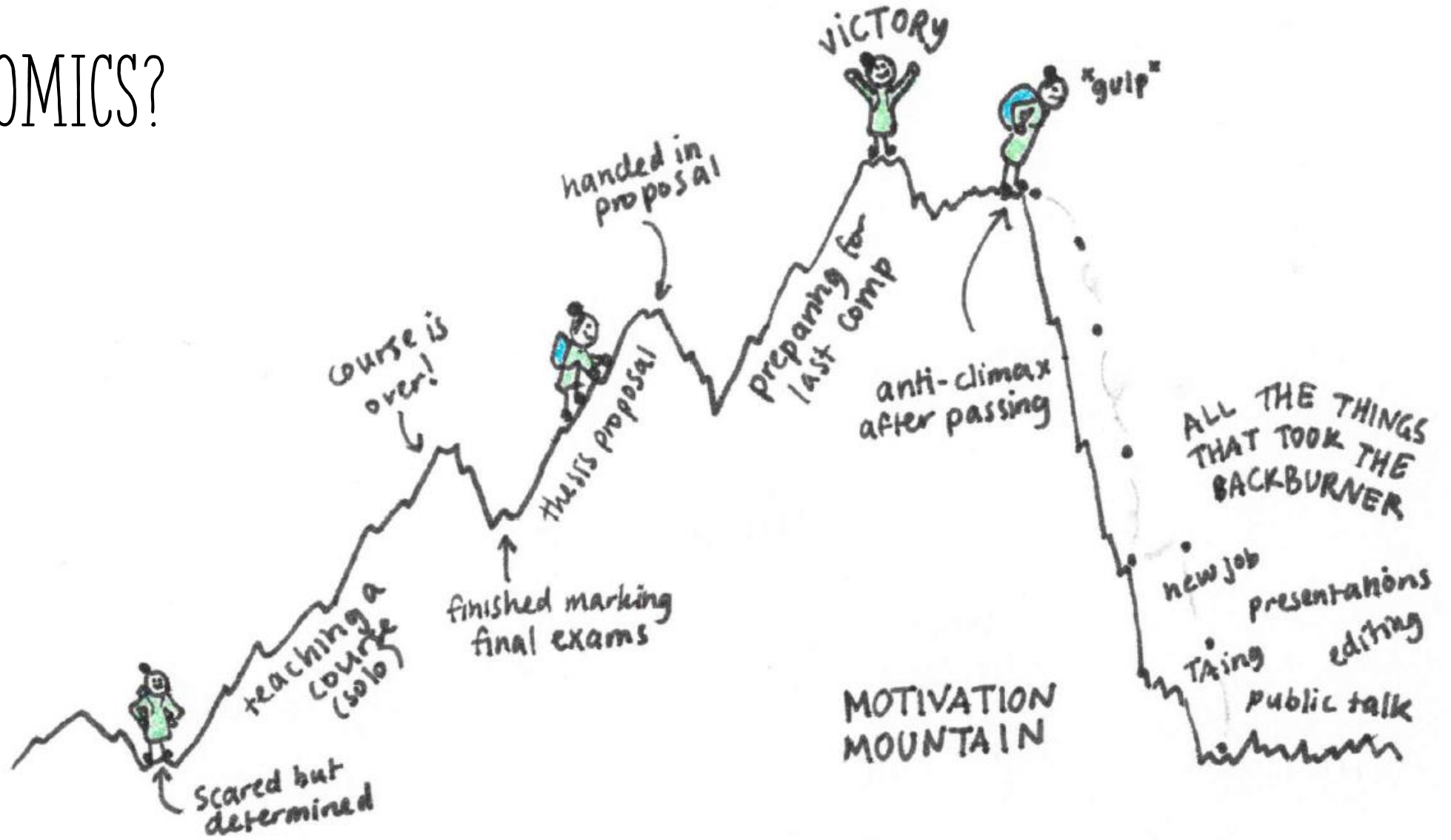
Asmita Sodhi, PhD
University of Victoria



WHAT IS A MATHEMATICAL COMIC?

- Comics are a medium for telling stories using images and text.
- My personal definition of a "mathematical comic" involves two flavours:
 - Comics drawn on mathematical objects
 - Comics about mathematical ideas
 - (the intersection of these need not be empty)

WHY COMICS?



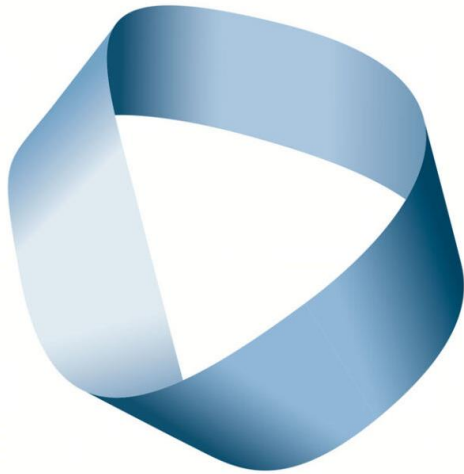
(September 2017)



WHY COMICS?

- I was fortunate enough to take three extended studies courses at the Nova Scotia College of Art and Design in Halifax, Nova Scotia with Mollie Cronin (@art.brat.comics on Instagram).
- The third course I took was on "Miniature Comics". One day in this course we made comics on a cone, which made me think...
- What if I draw comics on mathematical objects?

MÖBIUS STRIP COMICS



- A Möbius strip is an object which, when embedded in Euclidean space, has only one side.
- Therefore, to make a comic on a Möbius strip, you want to tell a story that can repeat continuously.
- There are *lots* of such stories!

MÖBIUS STRIP COMICS

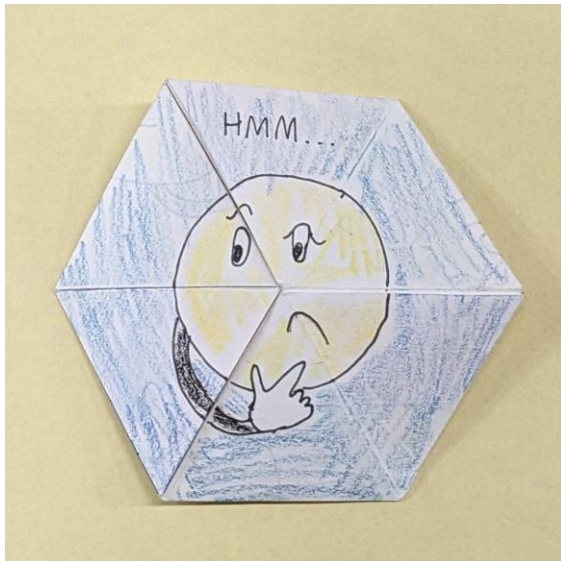
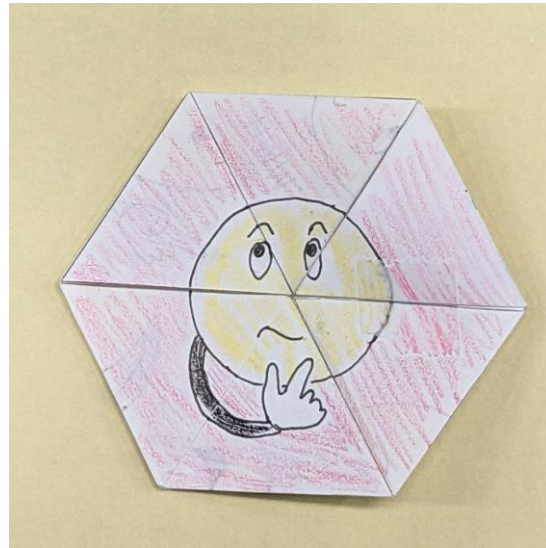
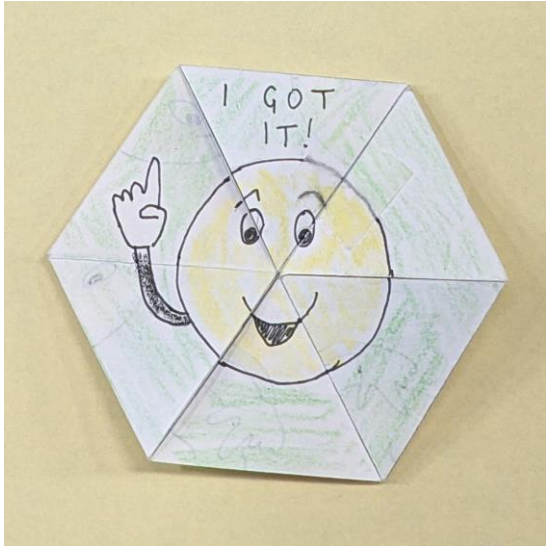
- In my opinion:
 - Making a story that repeats horizontally is easy in theory but trickier in execution.
 - Making a story that repeats vertically is trickier in theory but easy in execution.
- For a horizontal comic, the top and bottom of the comic strip should be consistent, so you need to be careful when flipping a flat strip.
- For a vertical comic, things are easy!

MÖBIUS STRIP COMICS

- Kids can be really creative with the stories they tell!
- Some latch onto the idea of sequential art but not the looping.
- Some have difficulty with orientation when drawing a horizontal comic.
- Some storylines I've seen: flower growing, underwater adventure, tunnelling

HEXAFLEXAGON COMICS

- A hexaflexagon is a flat model that can be folded (flexed) to reveal different faces.
- Your common garden variety of hexaflexagon has three faces. Since you can flex forwards or backwards, to make a (logical) hexaflexagon comic, you need a story that can be told in three panels in any order.
 - This is *not* an easy kind of story to tell!



HEXAFLEXA-COMIC

You can start at any image and cycle in any direction and have a story that makes sense.

If you have more ideas of stories that can be told in three panels in any direction, please let me know!

CHARACTER JAMS

- A character jam is a drawing exercise in which you create a character inspired by a short prompt (sometimes within a time limit).
- It's an opportunity to create characters without needing to come up with a story to go with them.
- You might draw a character you would like to explore more in a future comic!

TRIANGLE CHARACTER JAM



- I wanted a self-guided character jam exercise. I was inspired by an activity I did in a geometry course for in-service teachers.
- We classify triangles based on their angles, but also based on their side lengths.
- What if we put that together to create characters?

CREATE A TRIANGLE CHARACTER

Choose a set of 3 different eyes  and 3 different mouths 

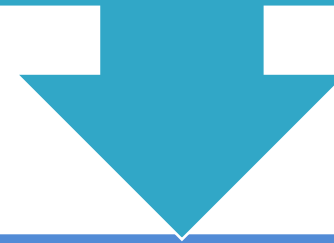
Can you make a triangle character with each set of features?

Careful, some triangles may be impossible to make!

	angle → 	ACUTE	RIGHT	OBTUSE
side length ↓  EQUILATERAL				
ISOSCELES				
SCALENE				

COMICS FOR YOUNGER KIDS

I wasn't sure what age range participants in Bridges Family Day would be, and I wanted to allow young children to make their own comics too.



I made templates for guided four-panel comics about favourite shapes and favourite numbers.

Many newspaper comic strips are told in three panels, and one of my teachers has said she thinks four-panel comics are hard difficult to write, but I like them!

MY FAVOURITE
NUMBER IS _____

THIS NUMBER IS
SPECIAL BECAUSE

I LIKE THIS
NUMBER BECAUSE

I CAN FIND MY
FAVOURITE NUMBER
EVERYWHERE!

THANK YOU!

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