High Tech - Low Tech Classrooms

Rewindable Learning & Interactive Notebooks

Kristina Barnaby
Fairfield Country Day School
kristina.barnaby@fairfieldcountryday.org
Twitter: @kmbarn

Interactive Notebooks

*Organized

*Personalized

*Interactive

"It's a way of keeping track of our notes and homework, and it makes life easier when it comes to a test."

Organized

It's not just about organizing papers.

It's about organizing the learning process.

Elements of The Spiral

* Table of Contents
* Right Hand Page
* Left Hand Page
* Rule of the Page
* Rule of the Attachment
* Stamps/Stickers

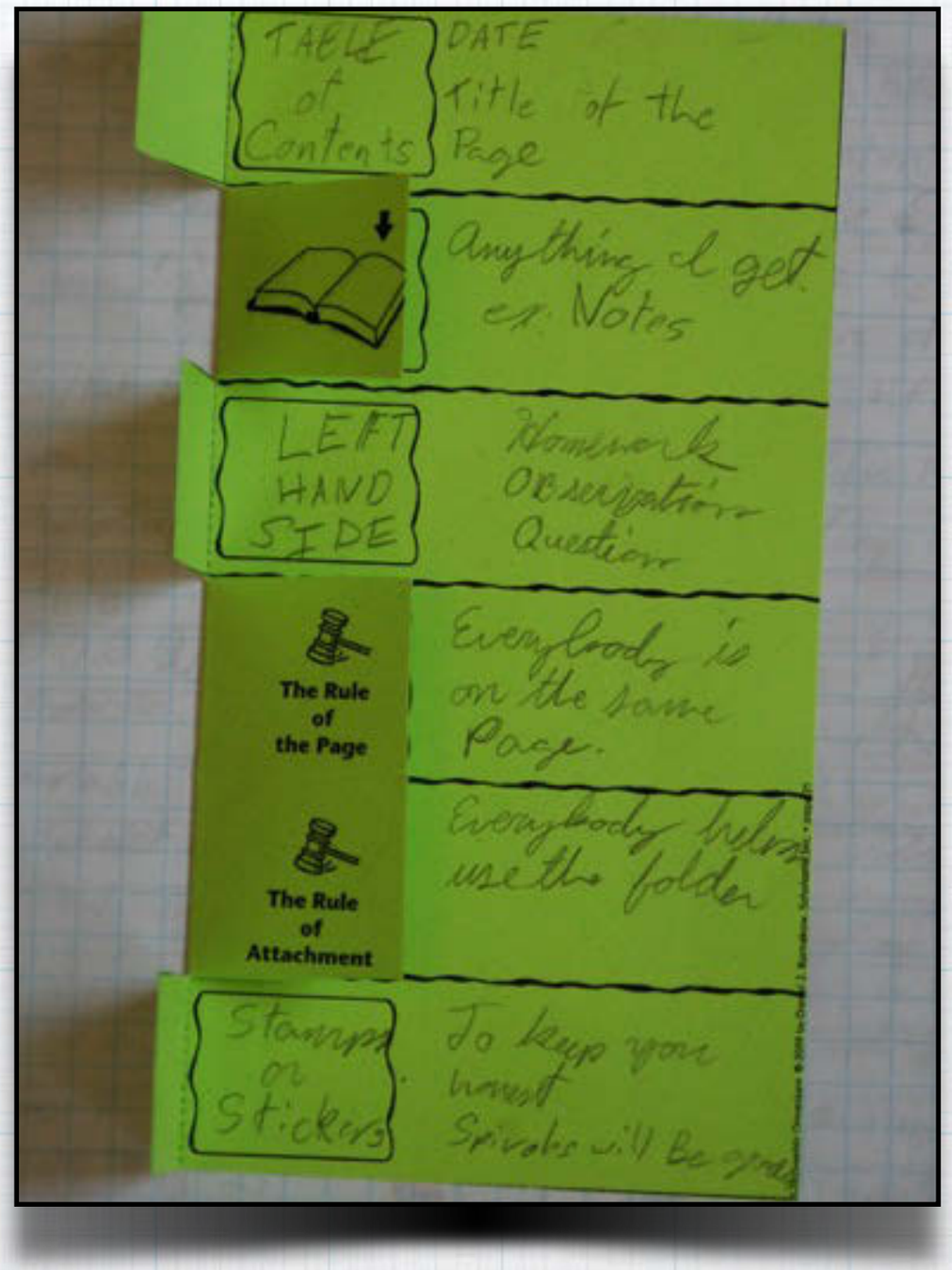


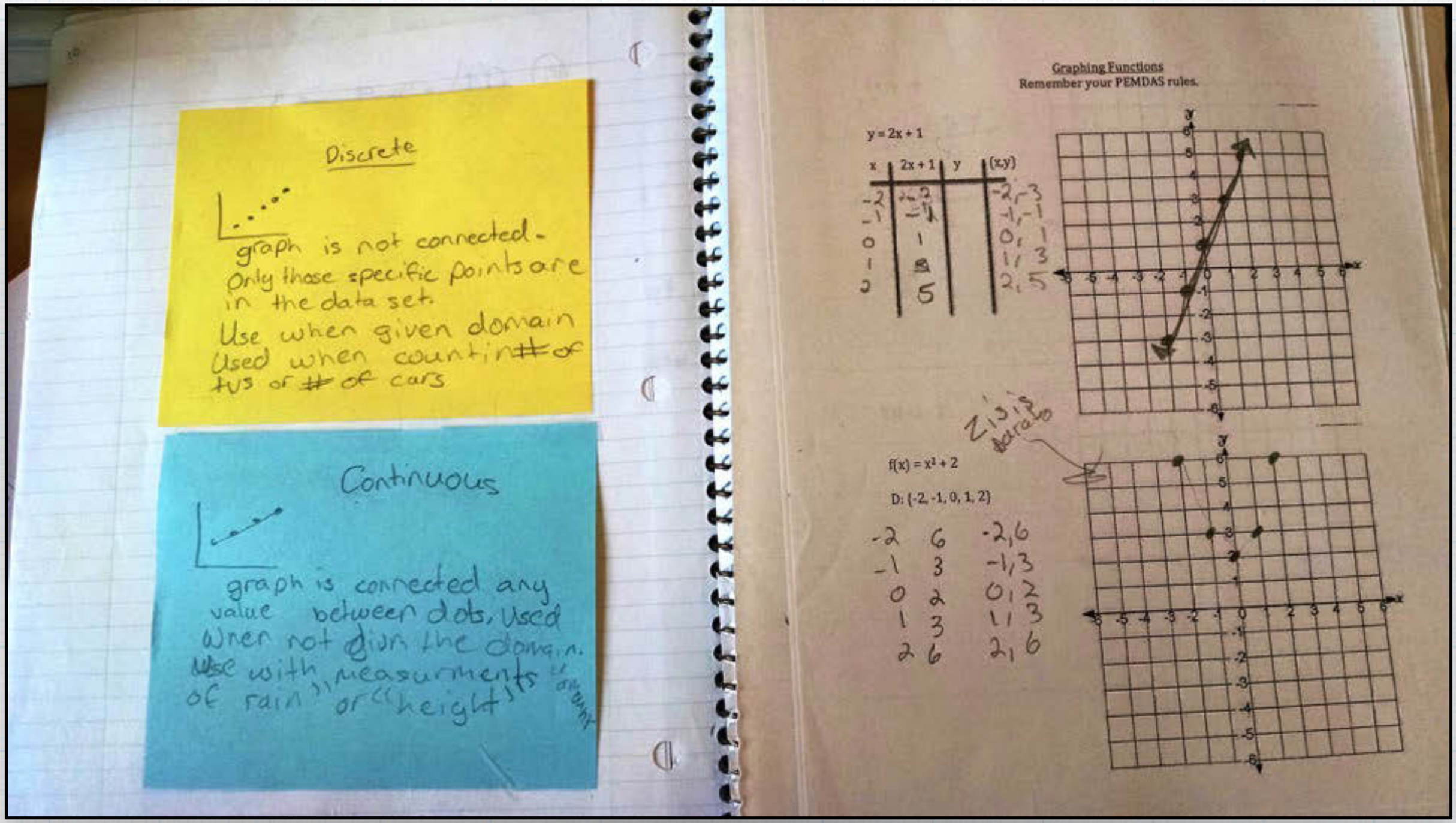
Table of Contents

Date	Page Title	LHP	RHP	Page Title
	Interpreting graphs Work	0	1	Interpreting graphs
	Practice functions	2	3	Functions + Relations
	V.L.T. (notes)	4	5	Vertical Line test (notes)
	writing functions	6	7	Independent / dependent variables
	Pg 249 #3-8 13-14	8	9	Writing functions from a table
	Discrete/continuous graph	10		Graphing functions
	Pg 275 #2,6,8,9,16,18,20,22	12		Arithmetic Sequence
	Pg 286 #1-12	14	15	Scatter plots
	Pg 300 #2-5 9,7,11,13,5,12	16	17	Linear functions
	Pg 306 #1-7	18	19	Using intercepts
	Slope and interpret rate	20	21	Using intercepts to graph a line
	Height data	22	23	Rate of change and Slope
	Graphing Horizontal/vertical lines	24	25	Slope of a line
	Rate of change	26	27	Key UUX chart
	findin slope	28	29	The slope formula
	323 #8,9 325 #33	30	31	Finding Slope from an Equation
	Pg 329 2-6 9,13,14	32	33	Direct Variation
	329 7,8 330 15,16,21-27	34	35	Writing and solving Direct Variation Equation
	Pg 336 13-16	36	37	Using Linear Functions
	y=mx+b	38	39	Discovering the slope intercept Form Equation
	338 #5 and 20	40	41	Slope intercept form
	338 #24, 26, and 28	42	43	slope intercept form
	Pg 345 #19 349 #25	44	45	Slope intercept form

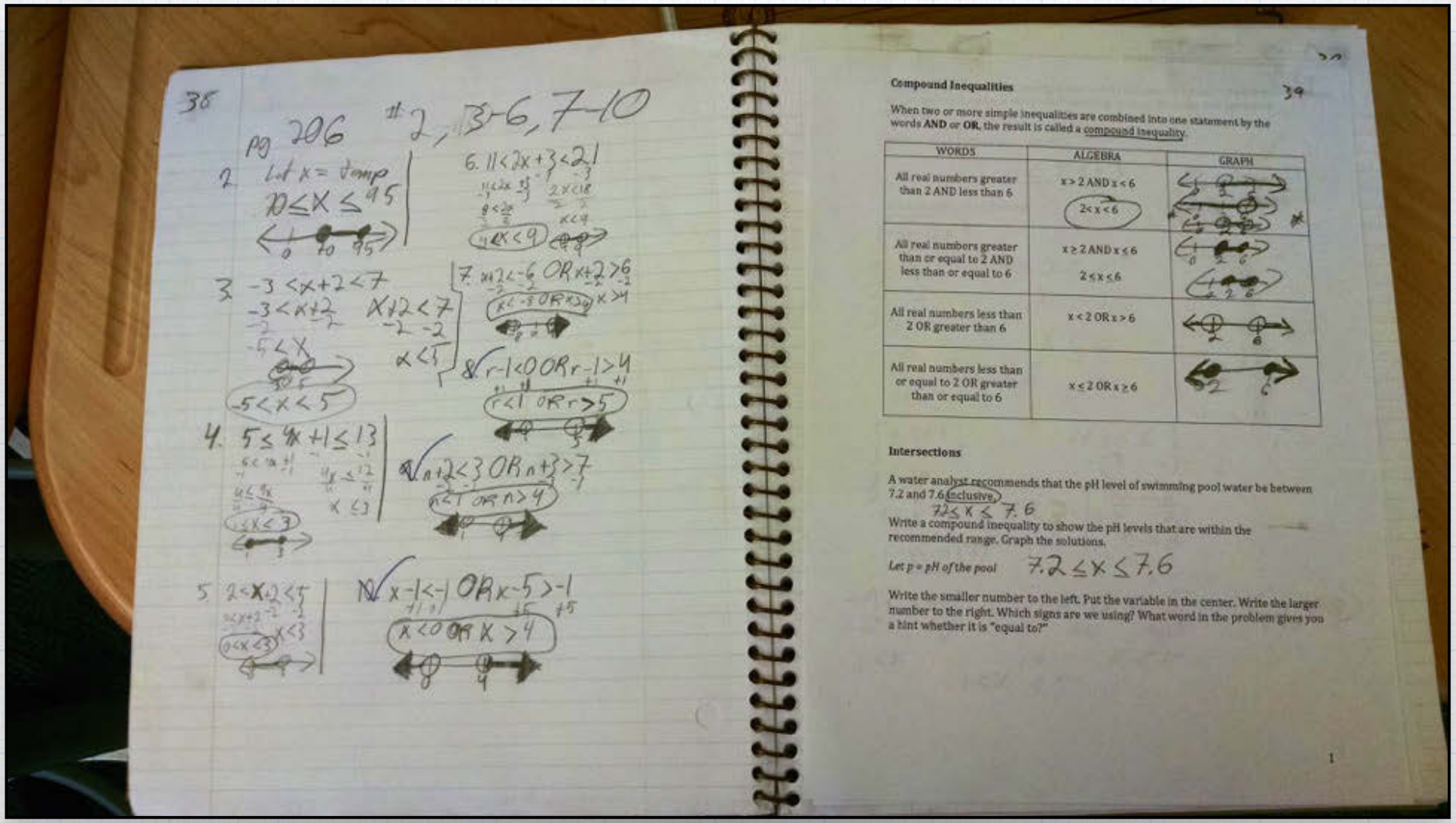
Table of Contents

Date	Page Title	LHP	RHP	Page Title
2/17	p. 584 #2-5	0	1	Identifying quadratics
2/17	p. 594 #16-21	2	3	parabola/Domain
2/19	p. 594 #10-15	4	5	direction of Para
2/23	No homework	6	7	finding zeros, inquadratics
	Axis of sketch for	8	9	Height of Arc
		10	11	Vertex
	More Vertex work	12	13	graphing Quad functions
	graphing	14	15	Plotting/int
	GM HW 62	16	17	transforming quad
	HW 633	18	19	factoring Poly when
		20	21	factoring difference
	635 HW 1,2,5,8	22	23	Factoring
	p. 639 #1-12	24	25	square Root trick
	review (finding 0's)	26	27	more finding 0's
	p 644 #1-10	28	29	Completing the √
	Math 1-6 review	30	31	factoring
	review Squares	32	33	completing to √5
	p Math Homework	34	35	Quadratic formula
	quadratic form	36	37	Discriminate
	practice B	38	39	Notes lv.1
	practice B histo	40	41	Histograms
	Review Histograms	42	43	Histograms
	Mean/Median/Mode	44	45	694-695

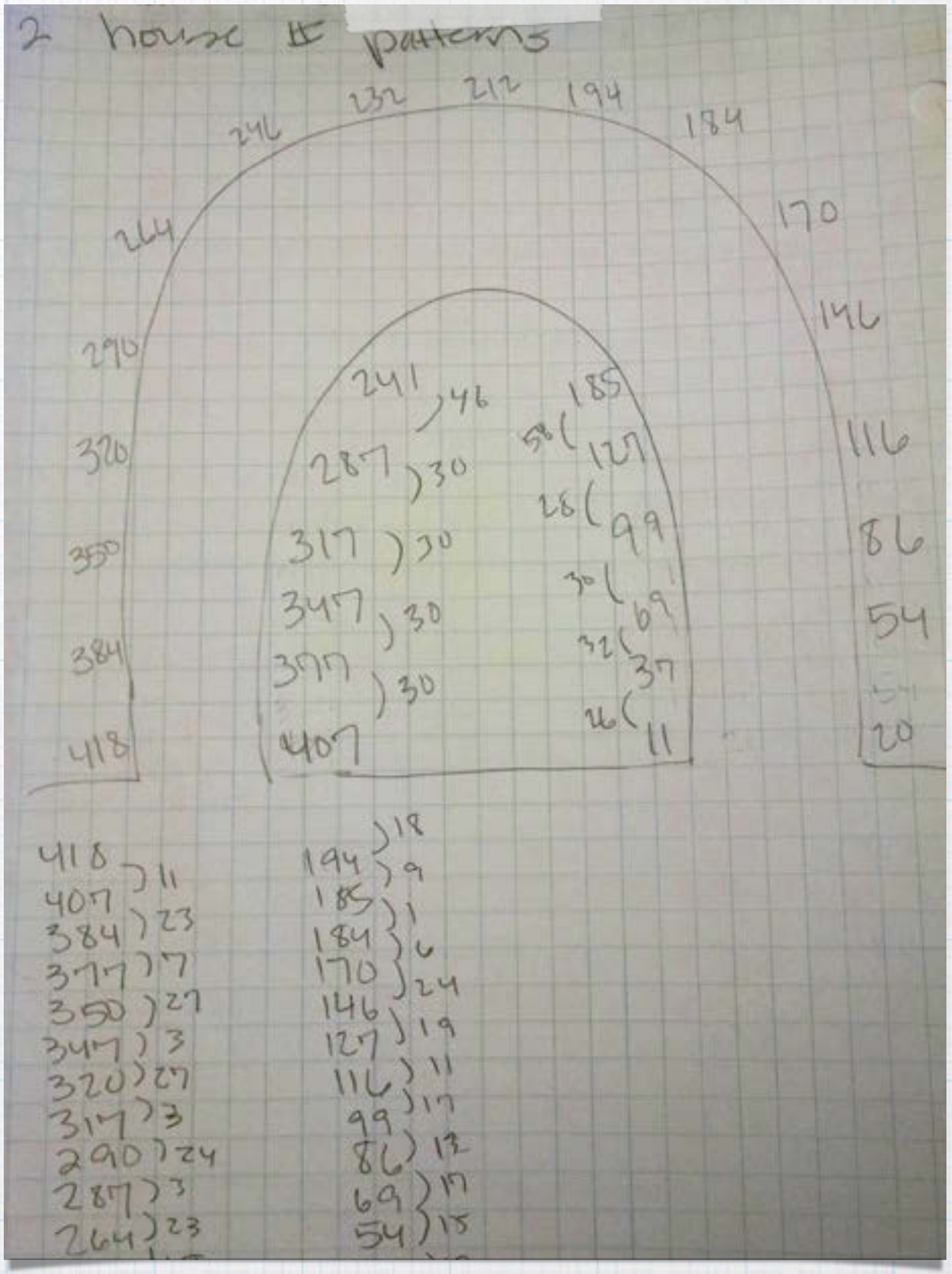
Left Hand - Right Hand



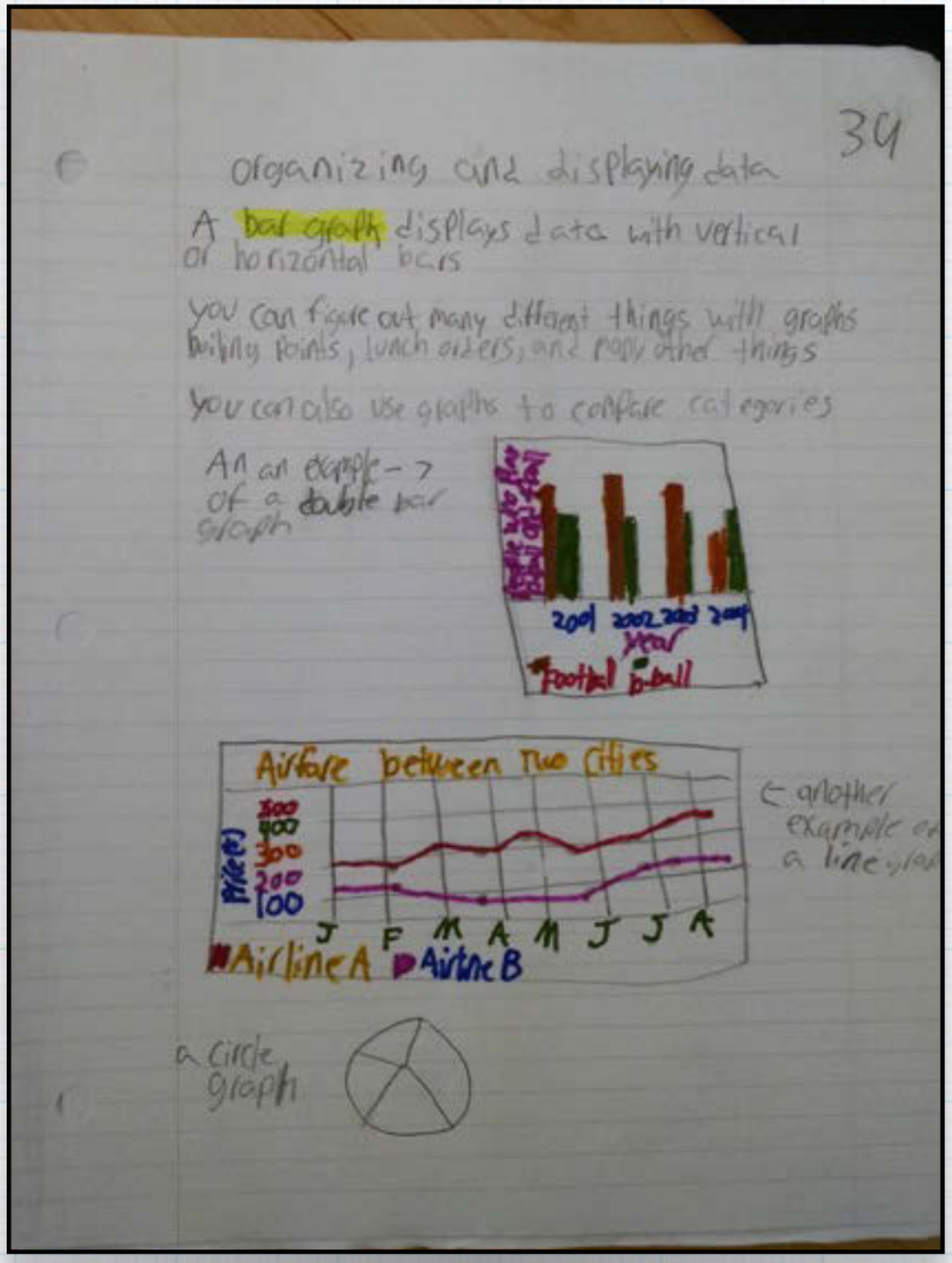
Left Hand - Right Hand

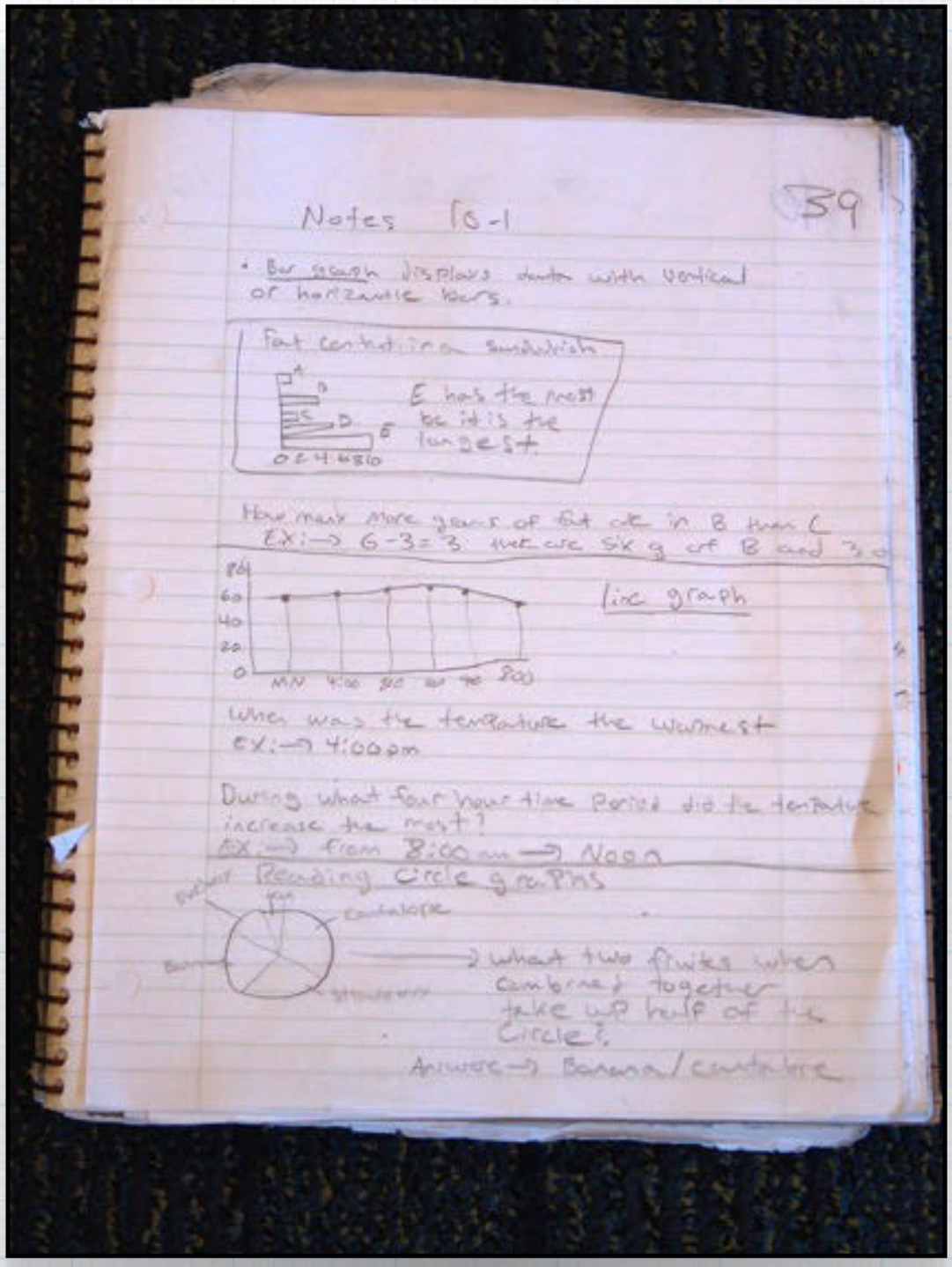


Do you see a pattern in your neighborhood?



"On The Same Page"

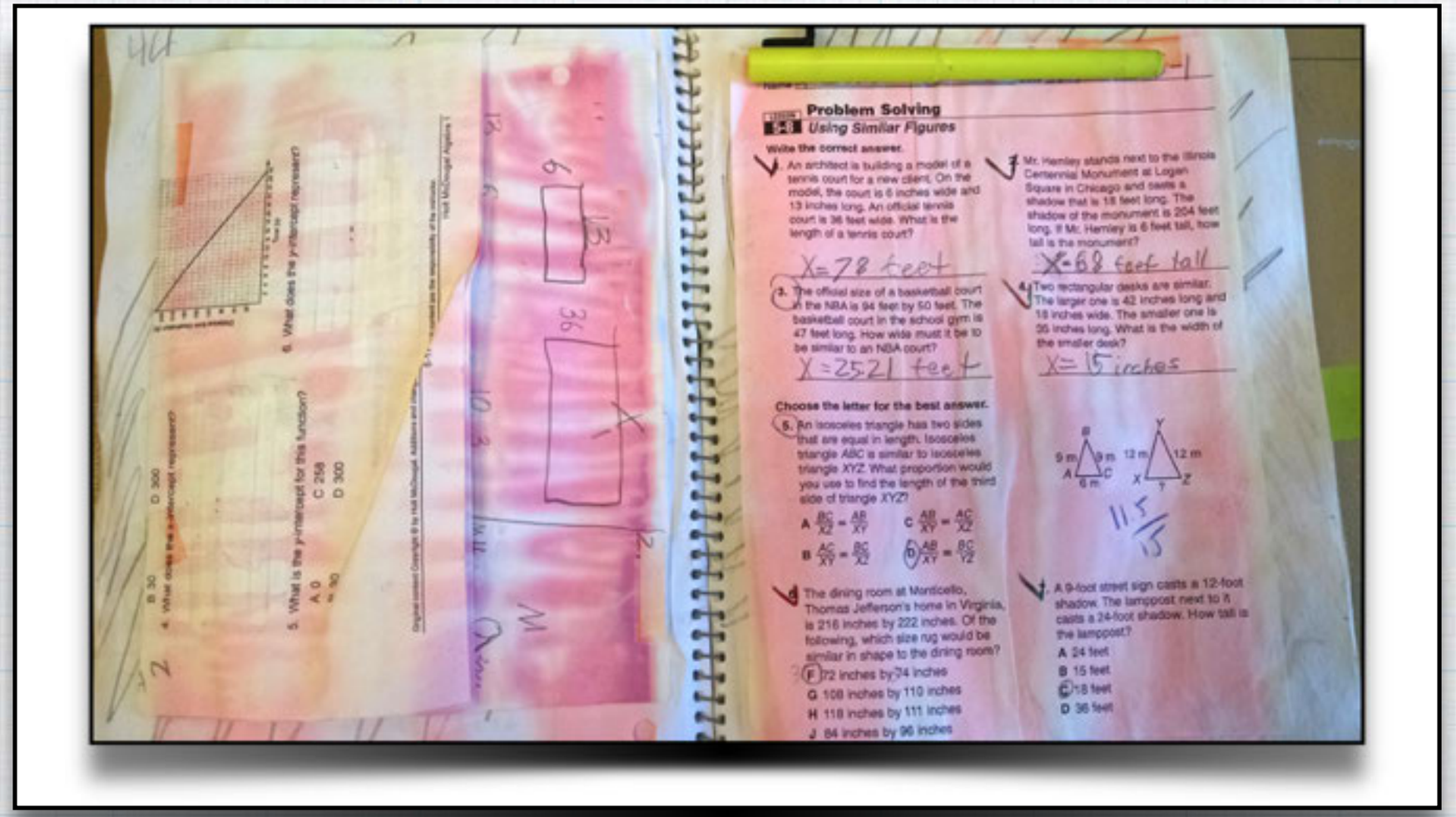




Can I really be this organized?

* Do what you can
* Notebook does not need to look exactly like this!
* Glue, tape, hand write
* Enlist student feedback, modify what you're doing

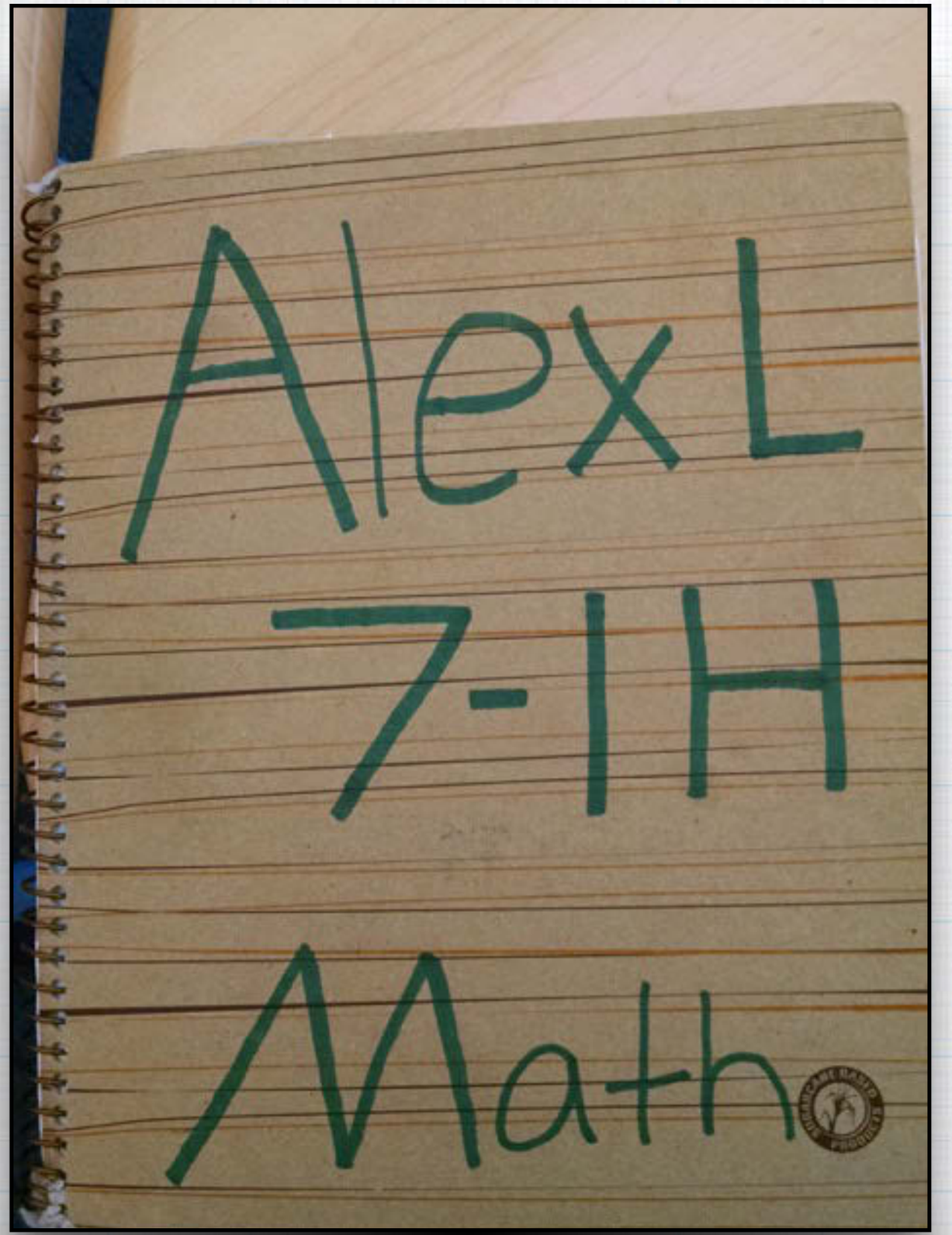
What if they ...

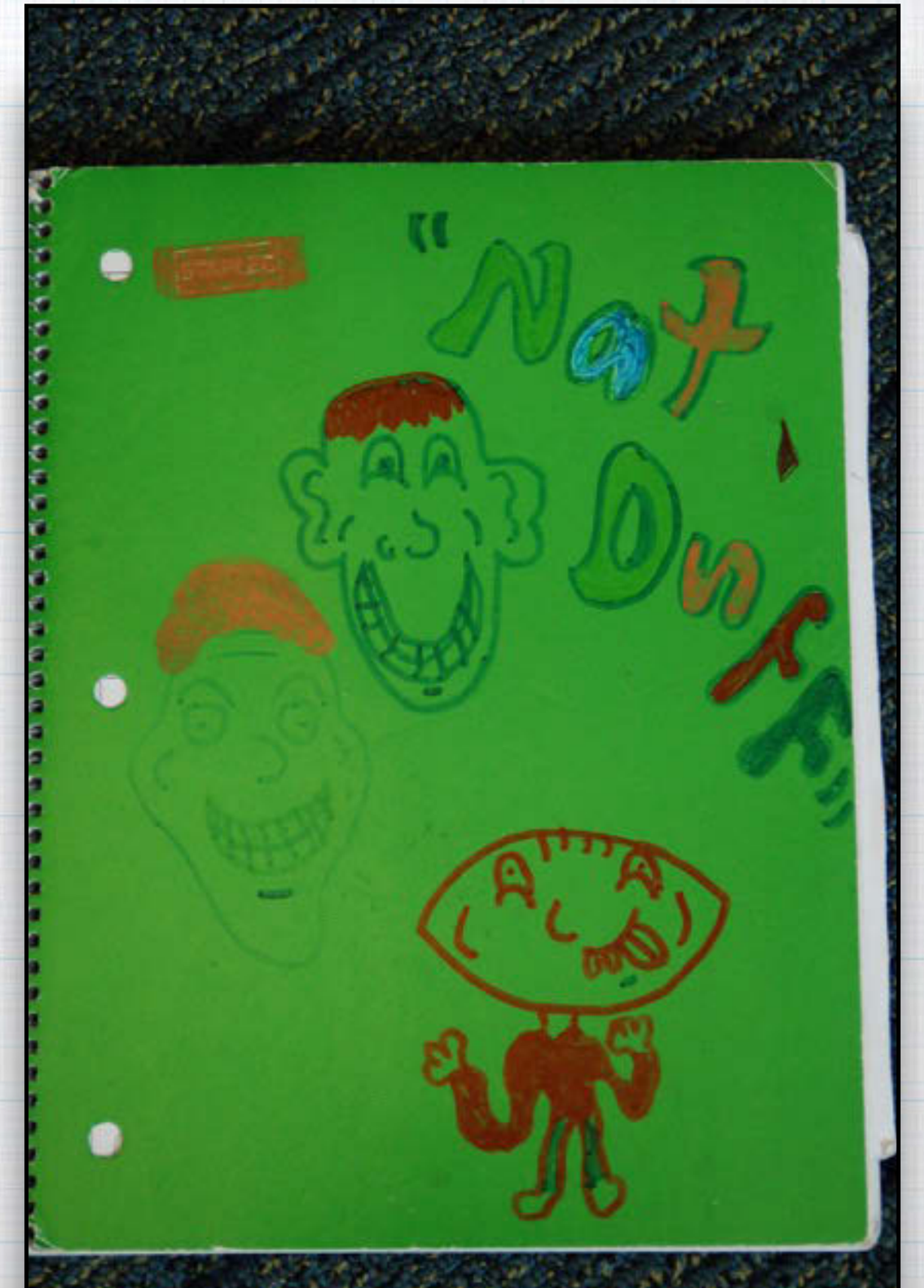


... run out of space on the page?
... are on the wrong page?
... forget their spiral?
... (gasp) lose it?

- Zach -
grade 8

Personalization





$10(2) - 9$

$20 - 9 = 11$

14. $p \div 7 + p$ for $p = 14$

$14 \div 7 + 14$

$2 + 14$

16

15. $n \div 5 + n$ for $n = 20$

$20 \div 5 + 20$

$4 + 20$

24

Similar Figures and Proportions

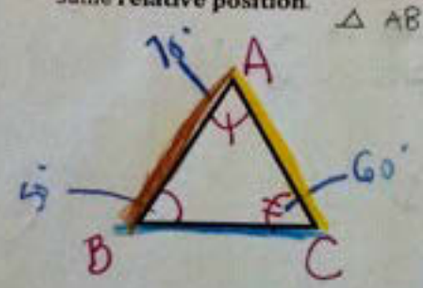
57

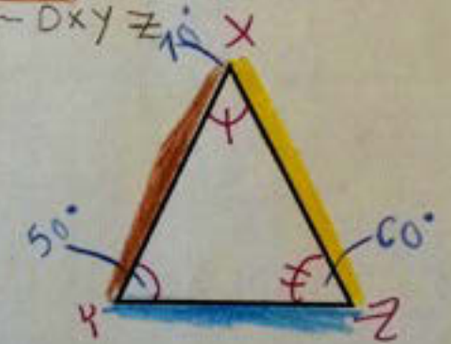
Similar figures have the same shape but not necessarily the same Size.

The symbol ~ means "similar to."

Corresponding angles and corresponding sides of two or more polygons are in the same **relative position**.

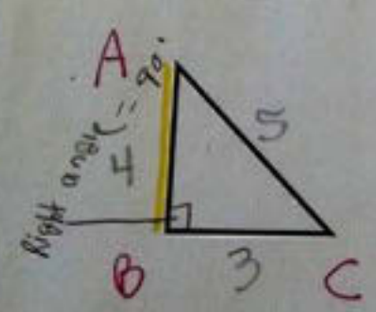
$\triangle ABC \sim DXY \neq$

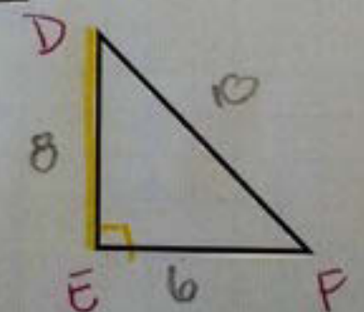


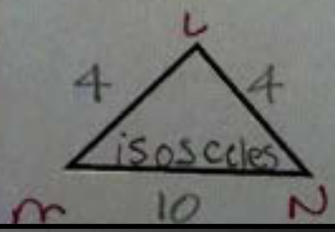


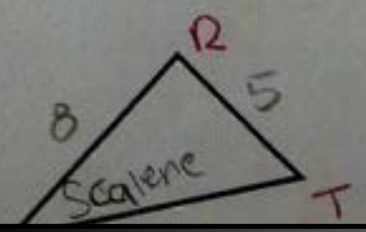
Tell whether the triangles are similar.

$\triangle ABC \sim \triangle DEF$

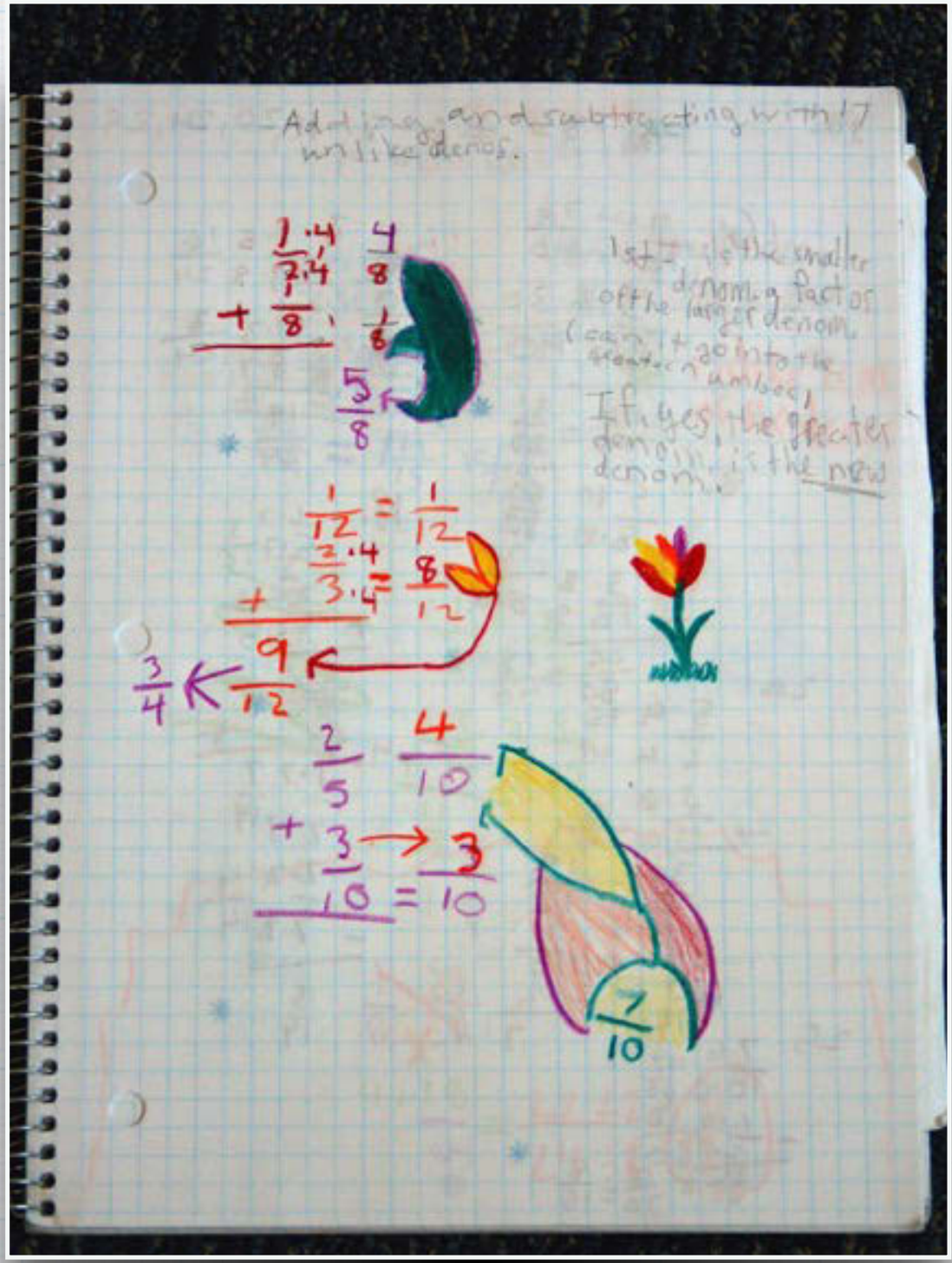


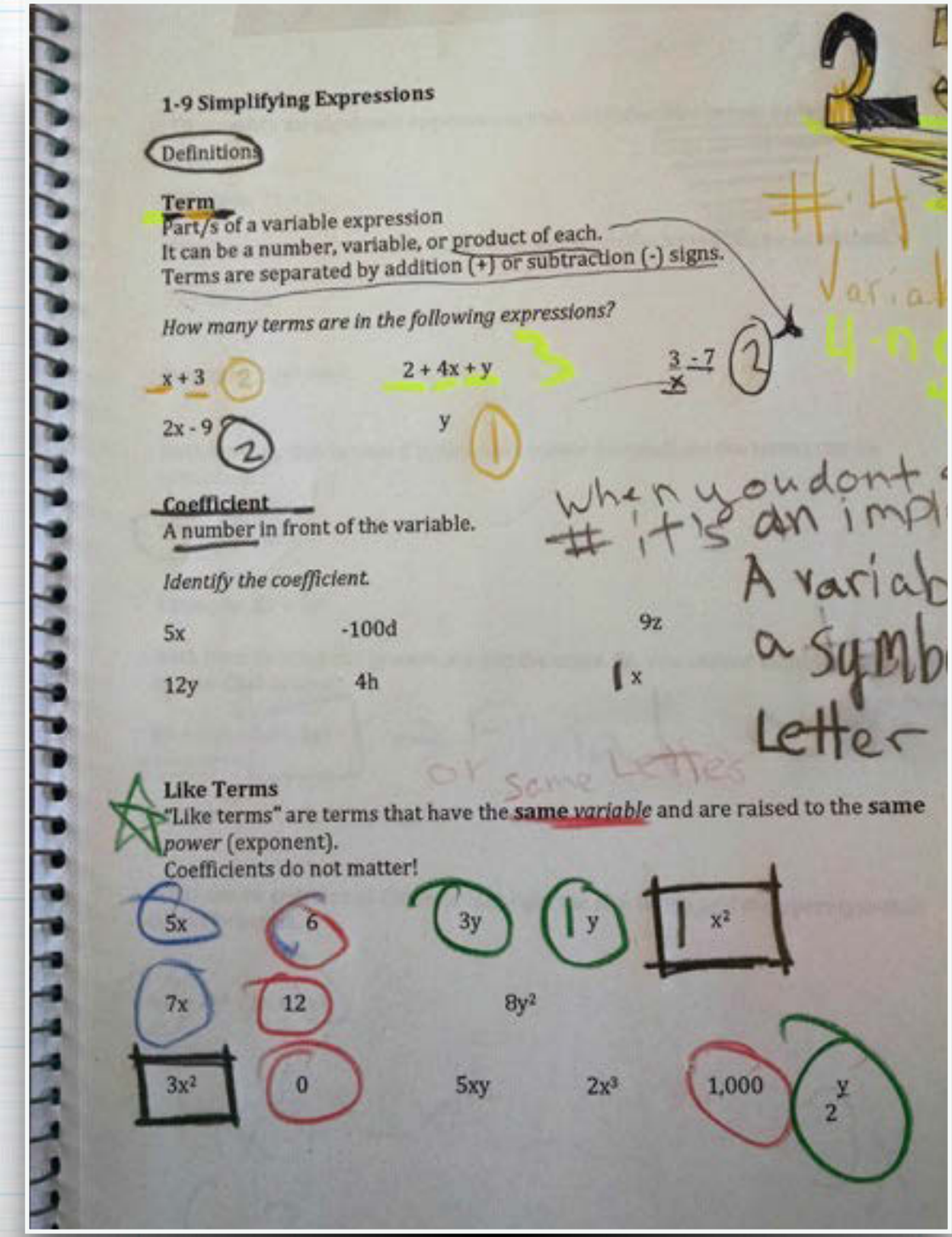






Is this only doodling?

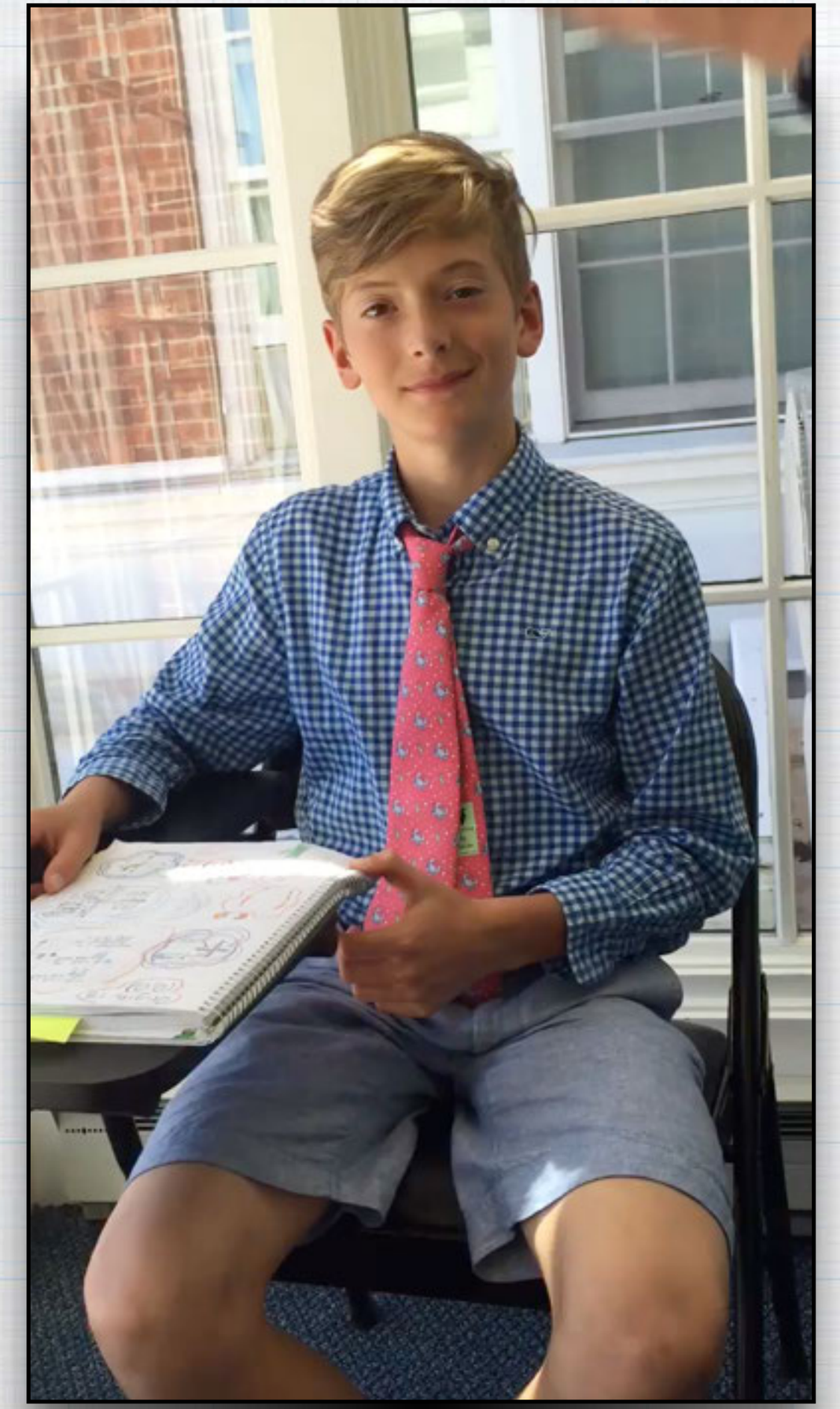




Color tells the brain:
"pay attention!"

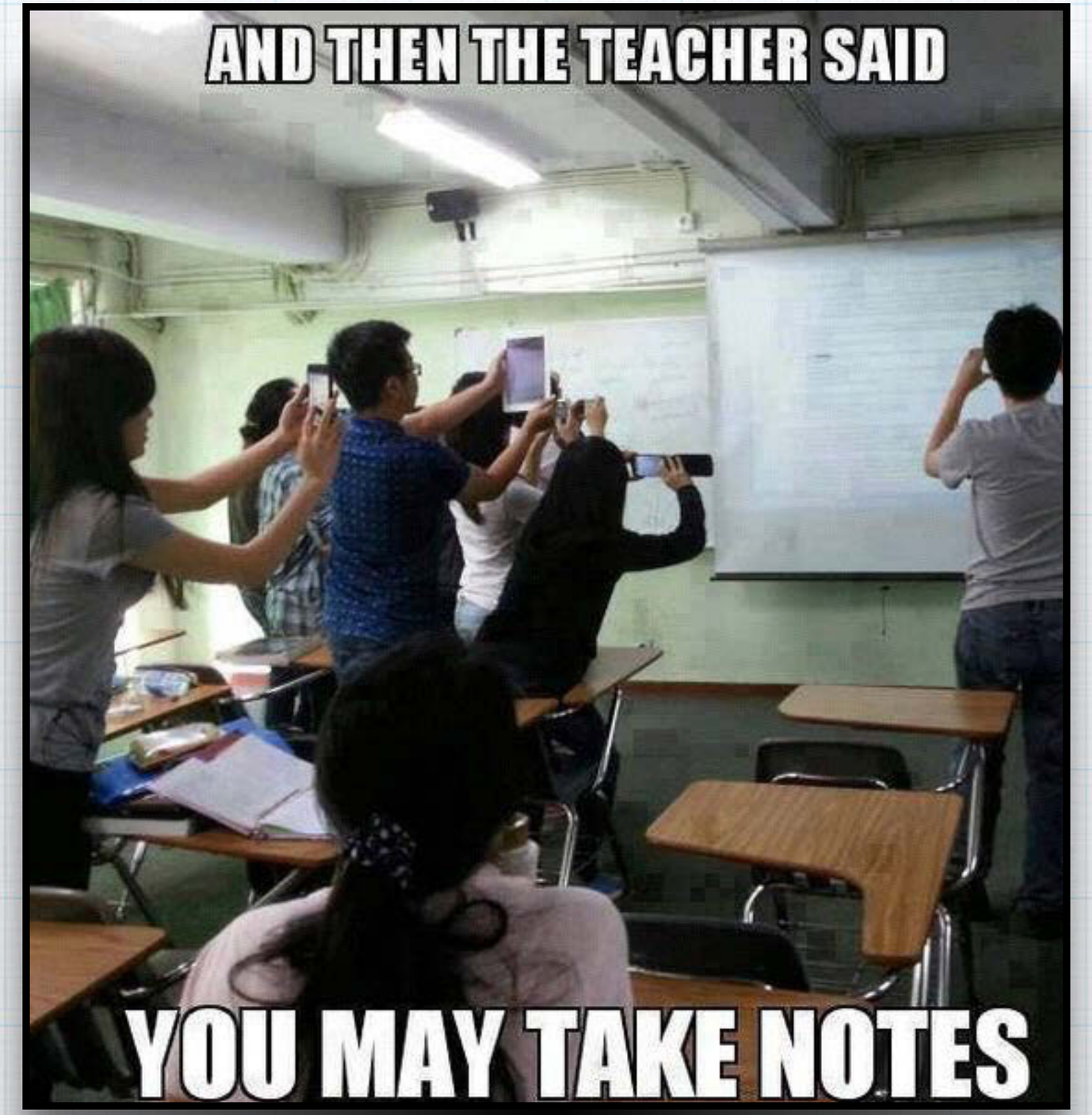
Creating visual images
=
Higher order thinking skills

Increase in visual
learners in past 10 years

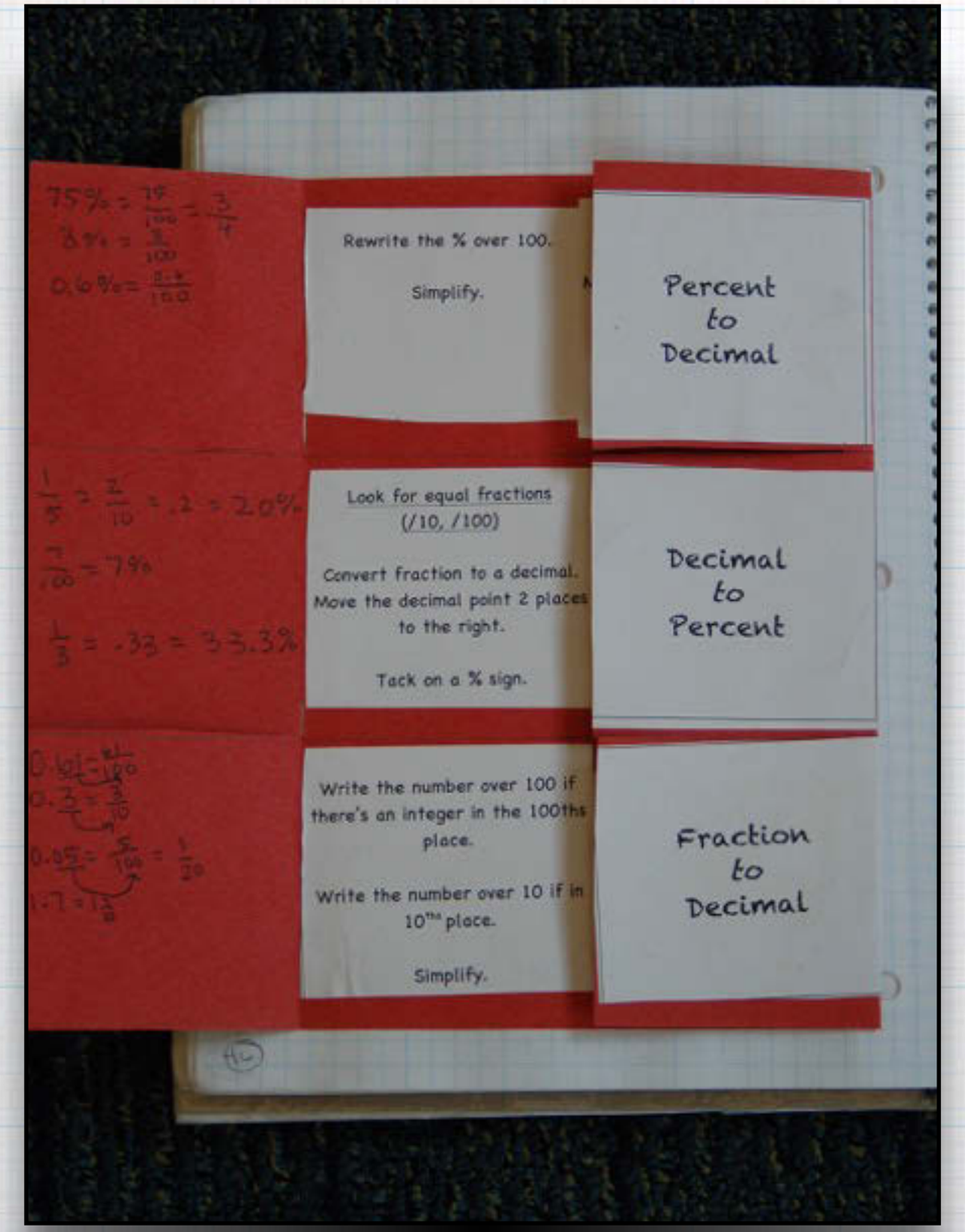


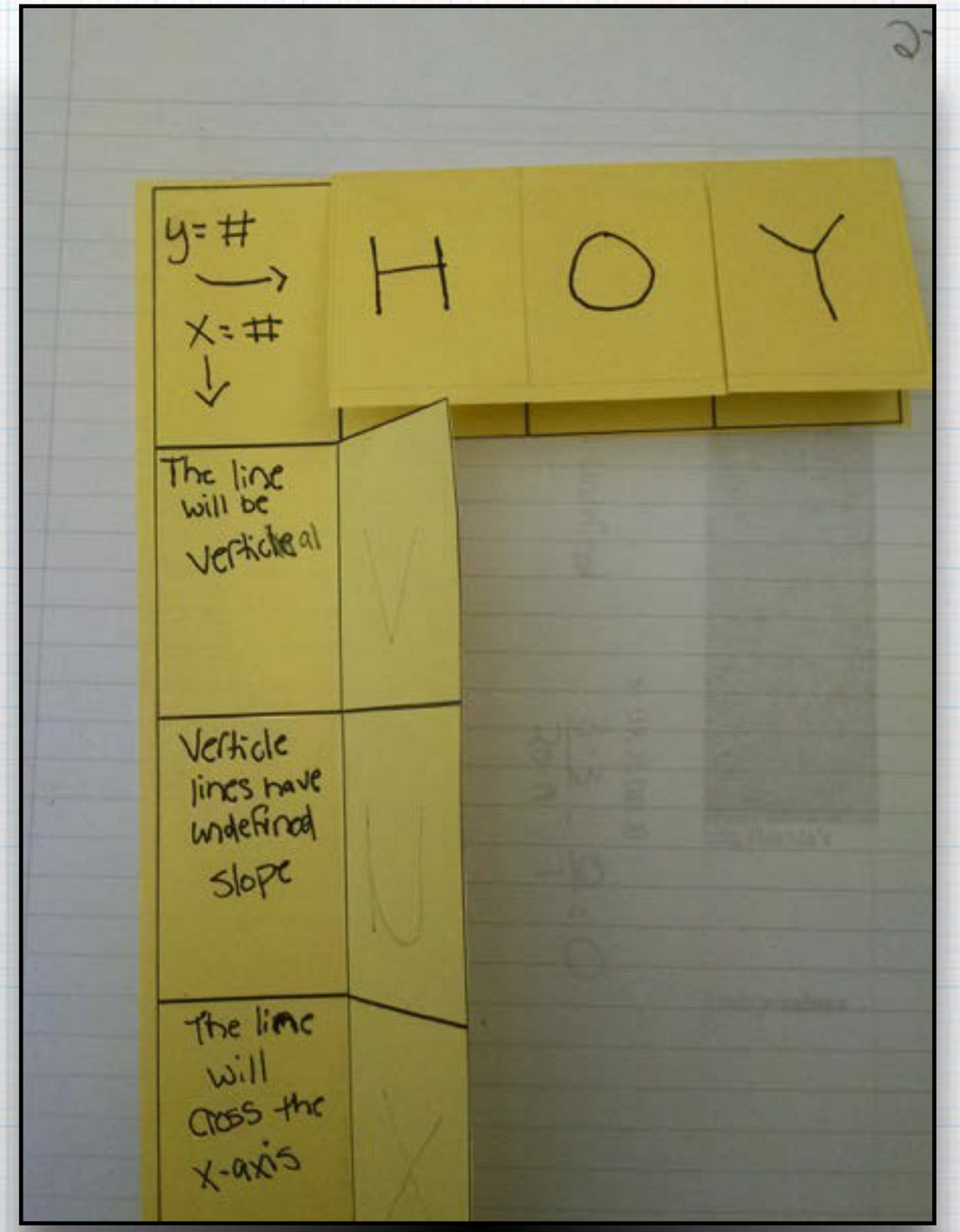
- Evan -
grade 6

Interactive?



Interactive!





differences in y values to the difference in the x values

Δ=chang

Rise / Run

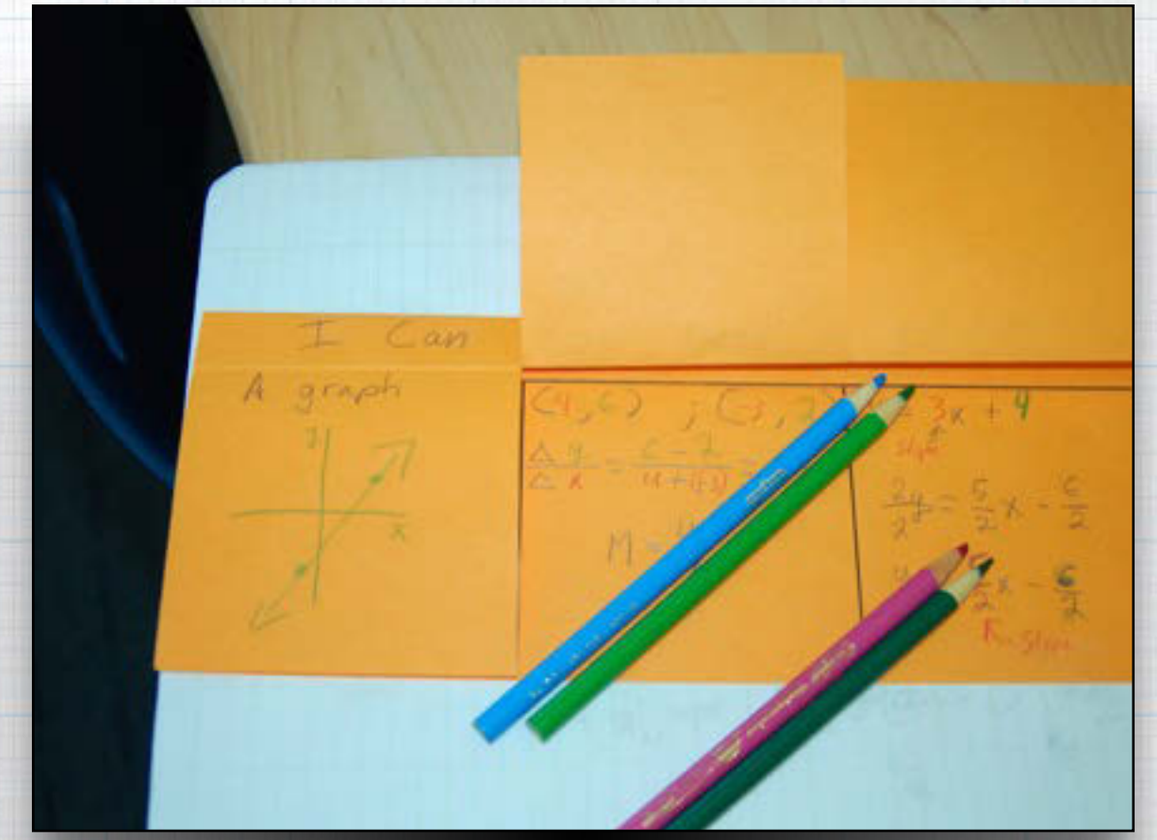
Rate of Change

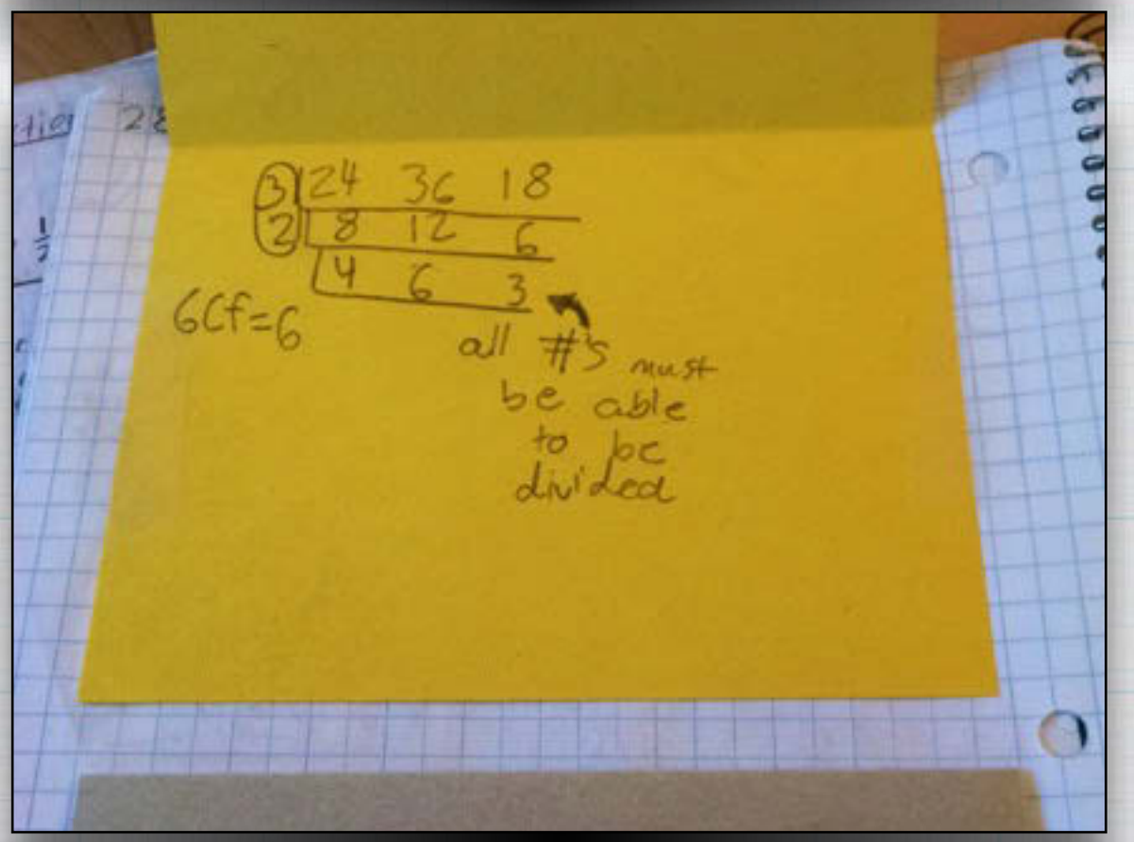
$\frac{\Delta y}{\Delta x}$

$\frac{\Delta \text{ Dep.}}{\Delta \text{indep.}}$

What we mean When we say "Slope"

units matter!

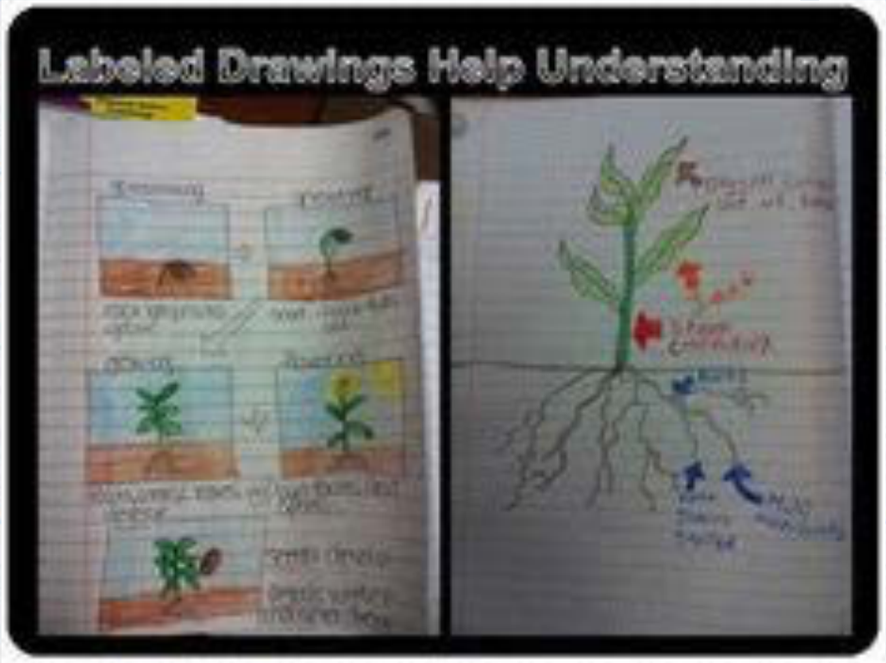


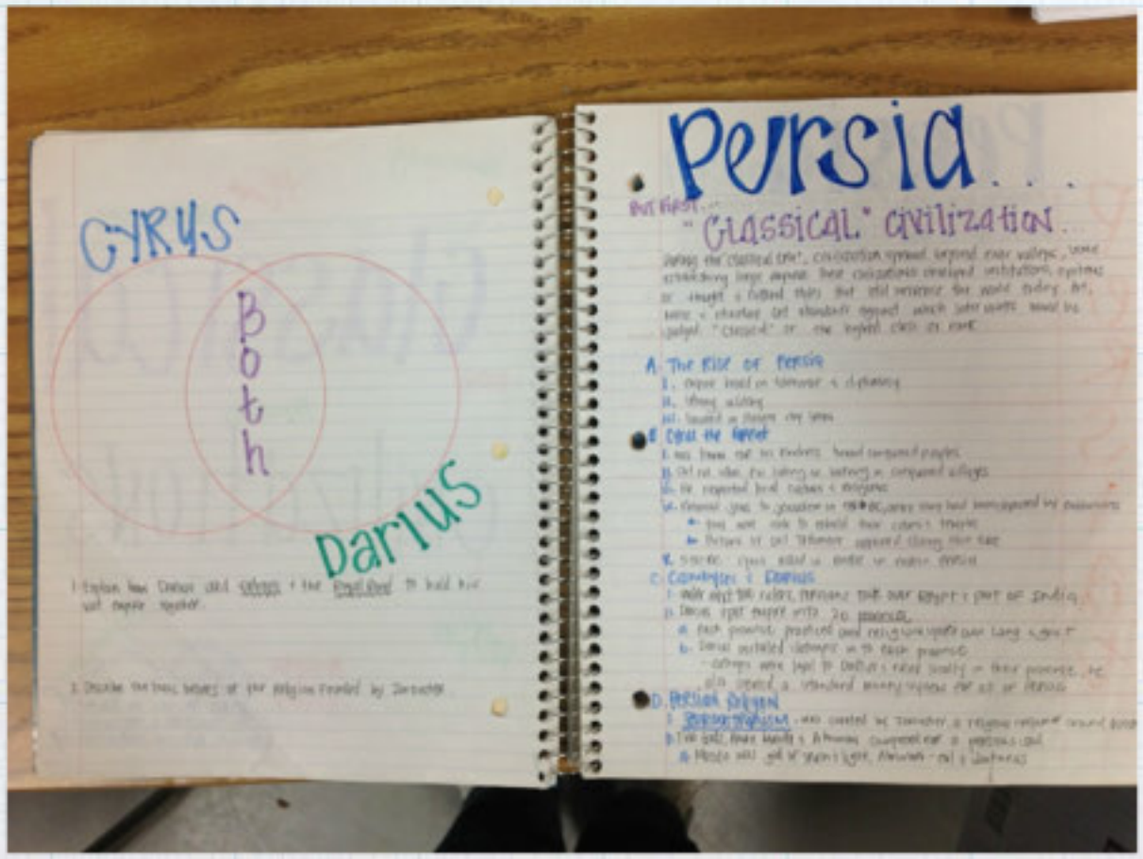


- Will -
grade 7

"Rudderless"

Spirals are...





"handmade textbooks and organizational tools for mathematics."

"personal lightweight textbooks that you make in your own words."

"notebooks where everything is in one place and there aren't any papers that are just stuffed in your backpack or locker."

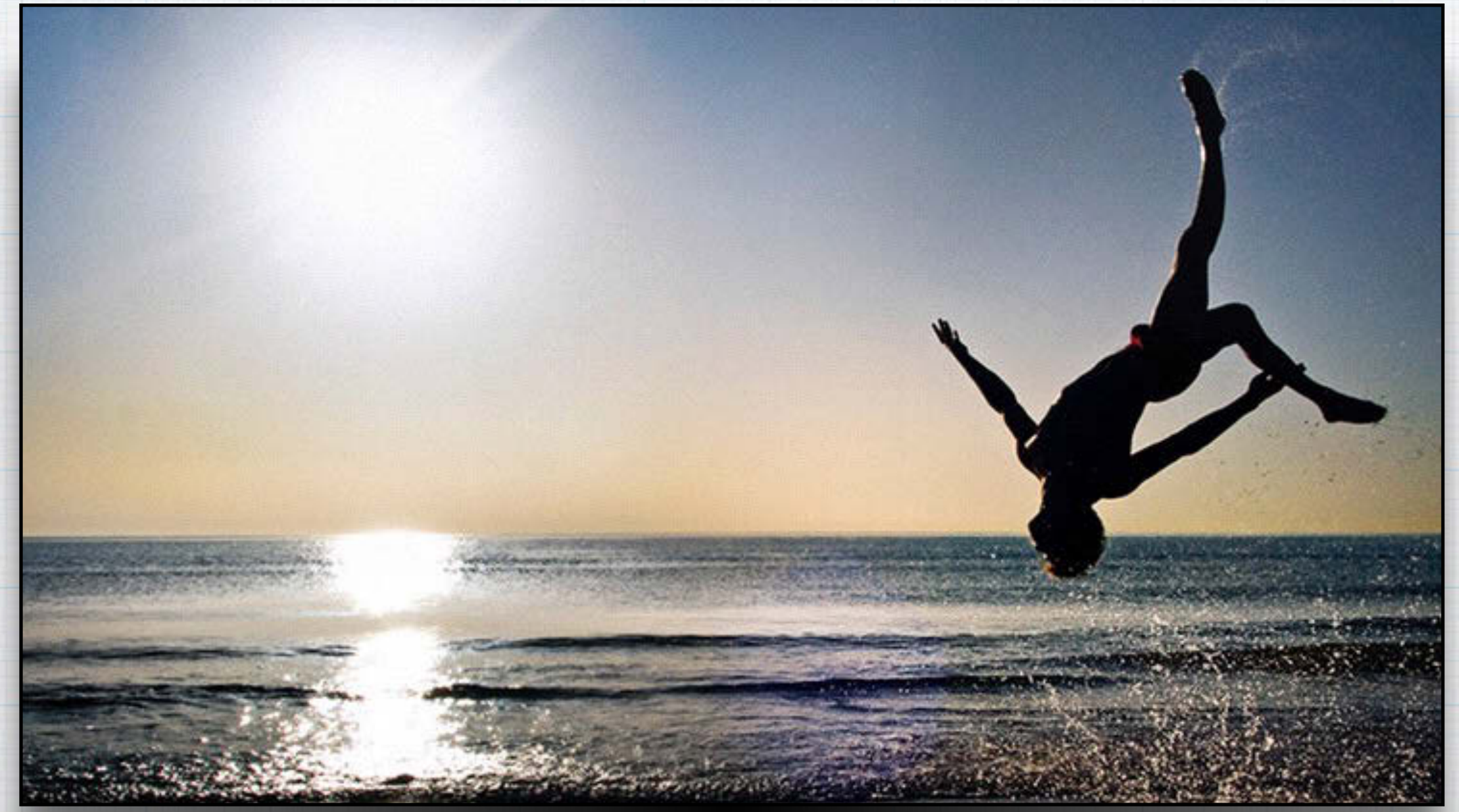
How do I get started?

* Spiral notebooks
* Tape or glue
* Scissors
* Storage bins

http://mathmagicians.vanessweb.com/2016/04/05/welcome-to-the-math-magicians/

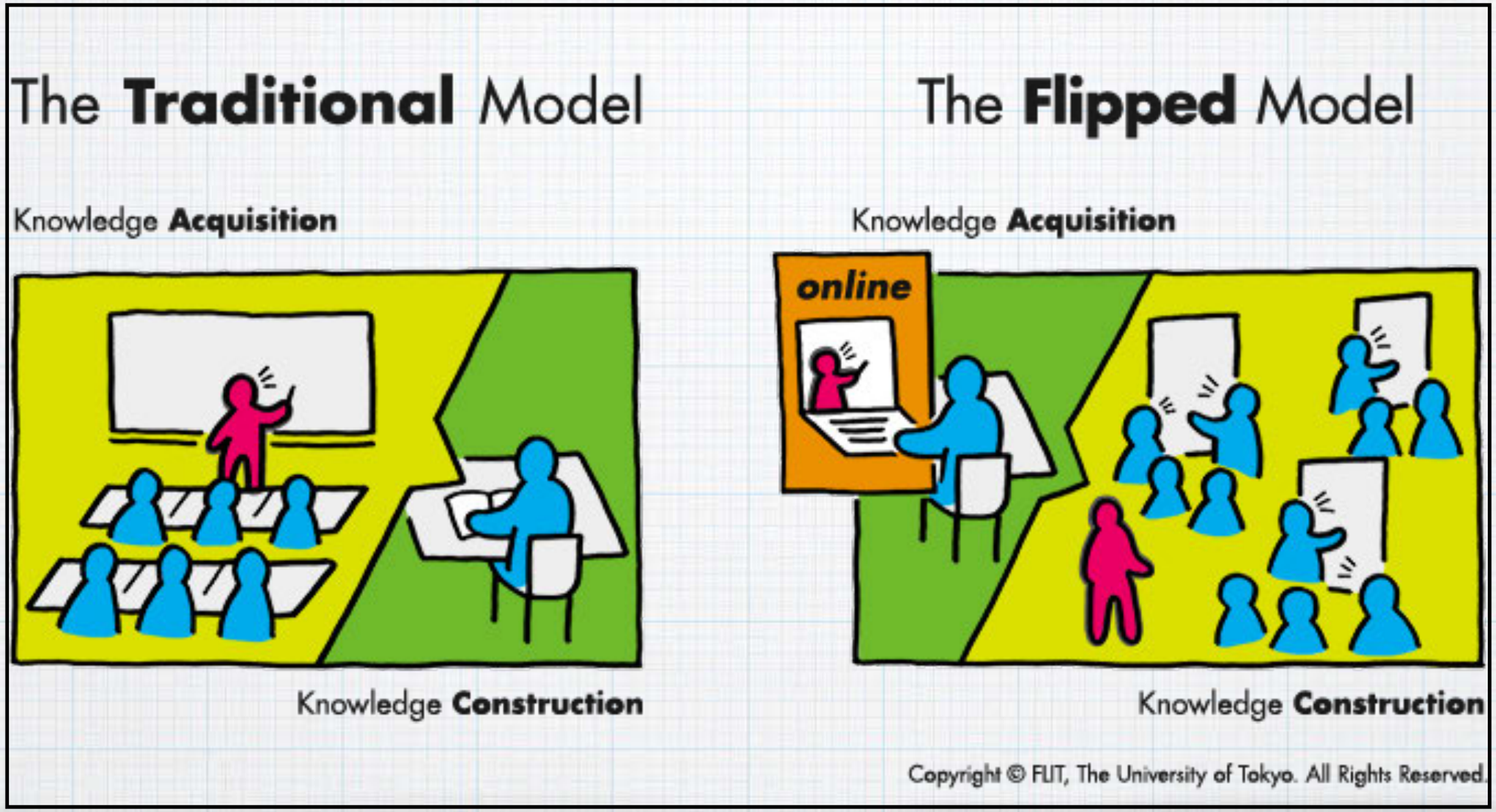
Rewindable Lessons

or how students can maximize their learning



What is rewindable learning?

also known as "flipped lessons"



Flipped learning - flipped classroom

Jon Bergmann
Aaron Sams
2007

educreations

SCREENCAST-O-MATIC

Explain
Everything

Getting Started ...

* Start small
* Simple concepts


YouTube


playposit
fka eduCanon


EDpuzzle

Lesson Analytics

04:38

Preview

Crop Video

Add Question

00:14

Why did PlayPosit ch dachshund as their l

A. Same reason as everybody else - their adorable dimensions.
Correct!
B. Because their team lacks artistic design
Now that is just mean
C. Because their CEO is a dachshund
Close, but not quite
D. Because dachshund is impossible to spell
Nope, we're nicer than that

01:54

What animal were dachshunds supposed to chase after?

A. Fox
B. Badger
C. Squirrel

03:03

What is the dachshund's most important feature?

A. Nose
B. Legs
C. Paws
D. Courage

Q 01	Q 02	Q 03		%
A	B	A	☺	
A	B	D	☺	
A	B	A	☺	
A	B	A	☺	
A	B	D	☺	
A	B	C	☺	
A	B	D	☺	

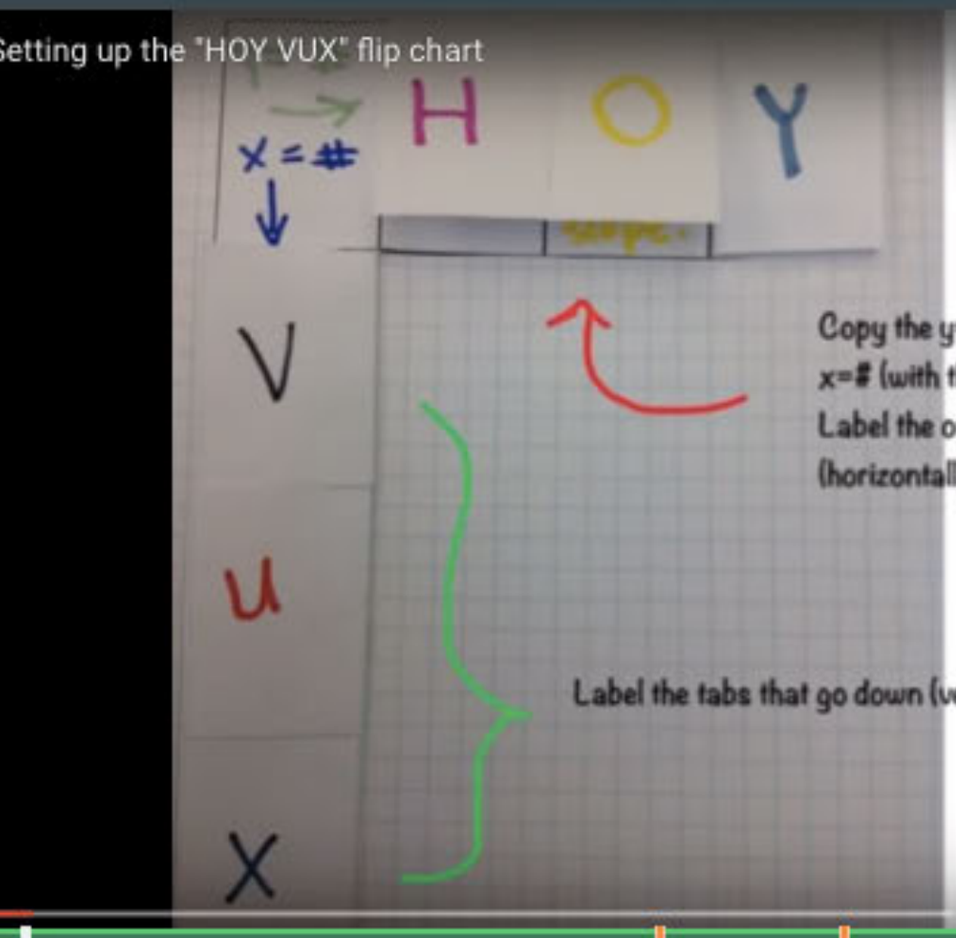
How did we do?

at-a-glance results

Setting up the HOY VUX flip chart

SWBAT organize their HOY VUX chart

Lesson Analytics



02:36

Preview

Crop Video

Finish Build

Add Question

01:03

What does the O stand for in 'HOY?'

A. origin
B. zero
C. off the graph

01:19

What does the 'V' stand for in 'VUX?'

A. vertical
B. vertigo
C. very hard to find

01:54

The line for x = 2 will be ...

A. horizontal
x= 2 is a VUX rule, and all VUX lines must be vertical (for the V)
B. vertical
Yes, because the V in VUX stands for vertical line.
C. there is no line because this is not linear.
We are working on linear functions!

B	A	A	
B	A	B	
B	C	B	
B	C	B	
B			
B	A	B	
B	C	B	
B	A	B	
B	C	B	

How did we do?

at-a-glance results

Online!

Now what?

- Kobe -
grade 7

Questions? Observations?

http://mathmagicians.vanessweb.com/2016/04/05/welcome-to-the-math-magicians/