WILLIAM & MARY
CHARTERED 1693

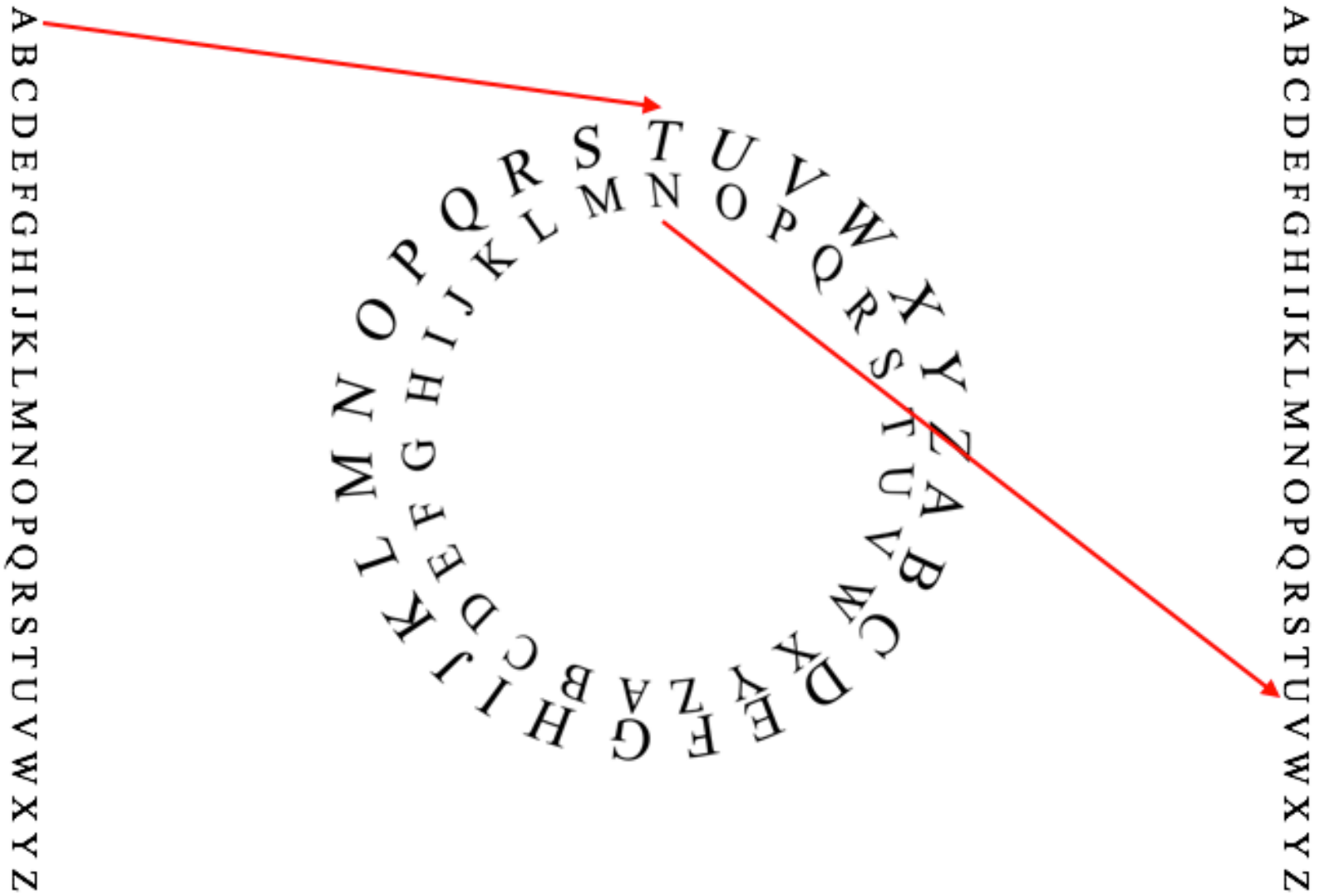
TWELVE CREATIVE ACTIVITIES FOR THE MIDDLE SCHOOL MATH TEACHER

Sam Rhodes
Margie Mason

The Tidewater Team
The College of William and Mary

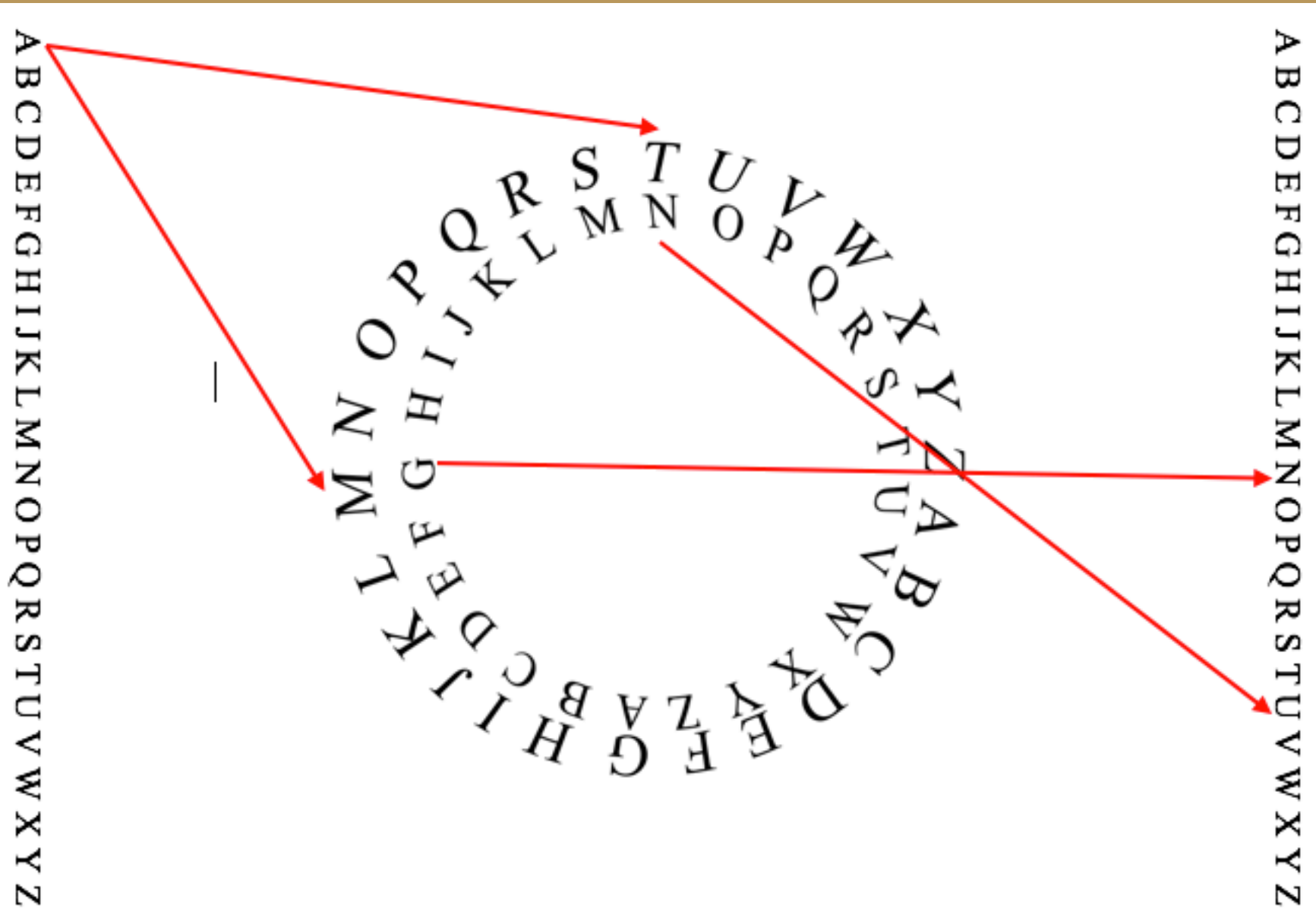
WILLIAM & MARY
CHARTERED 1693

12-FUNCTIONS WITH CRYPTOGRAPHY



WILLIAM & MARY
CHARTERED 1693

12-FUNCTIONS WITH CRYPTOGRAPHY



WILLIAM & MARY
CHARTERED 1693

12-FUNCTIONS SCAMPER

Start with the following relation:

x	y
-2	5
4	9
3	7
0	5

Does the relation shown to the right represent a function? Why or why not?_____

_____

Substitute

Take one ordered pair out of the table and replace it with any ordered pair of your choosing while ensuring that your new relation is also a function. Rewrite the new table below. (note, only one ordered pair should be different)

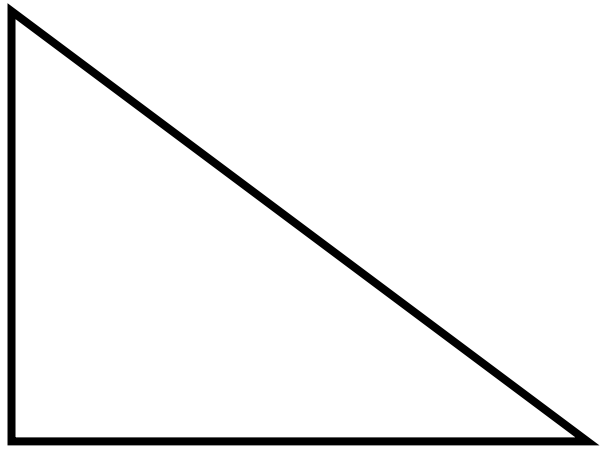
x	y

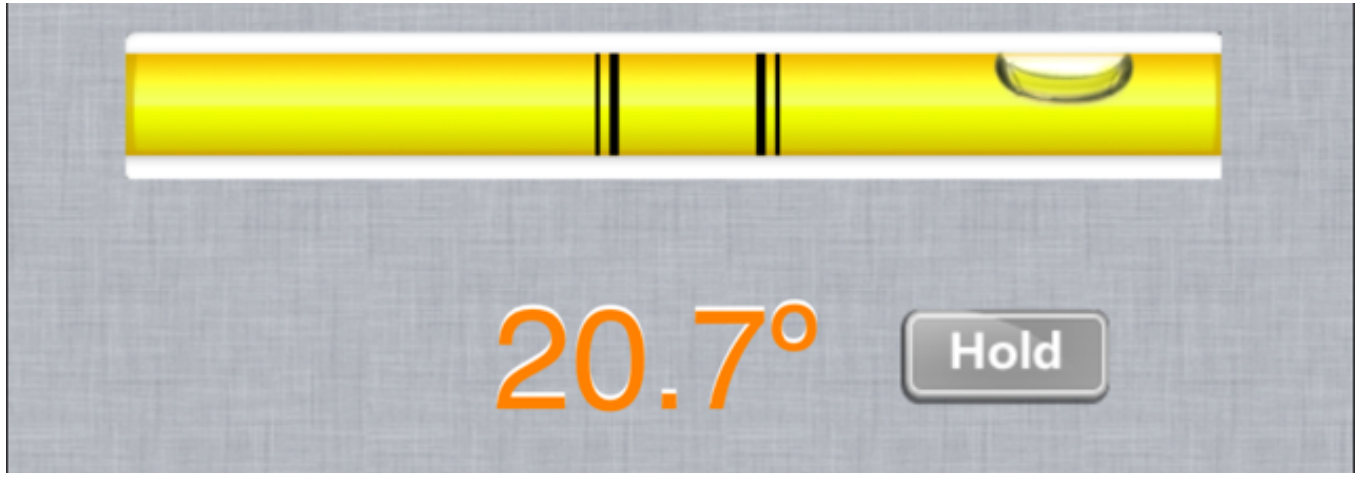
How do you know that changing the relation did not stop it from being a function?_____

_____

WILLIAM & MARY
CHARTERED 1693

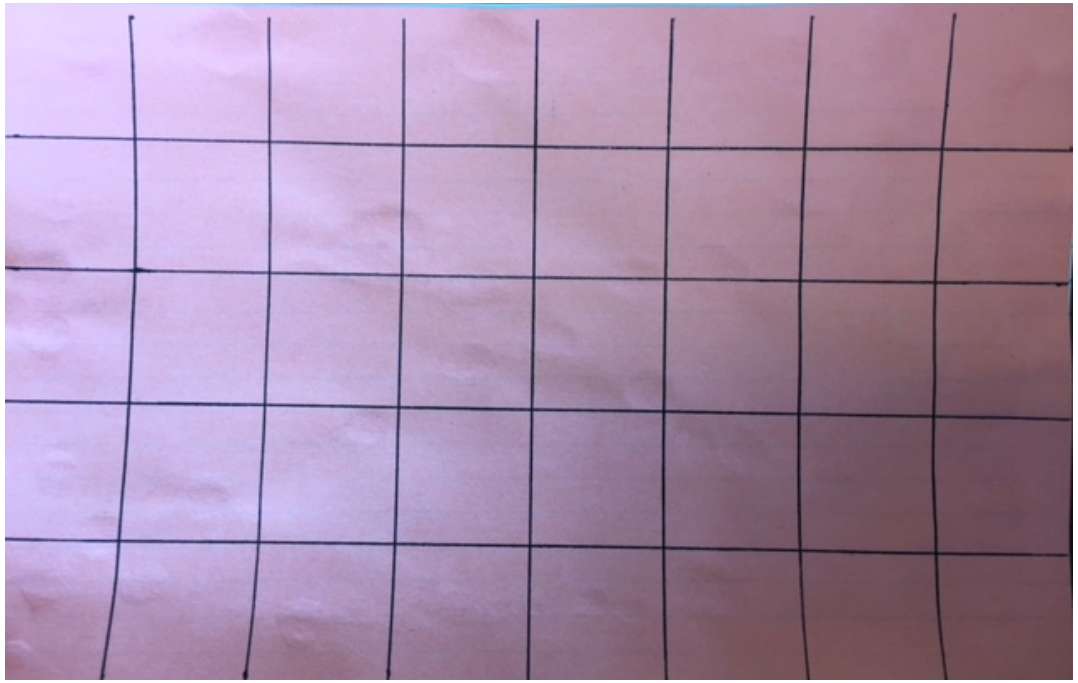
11-LASER POINTER TRIG





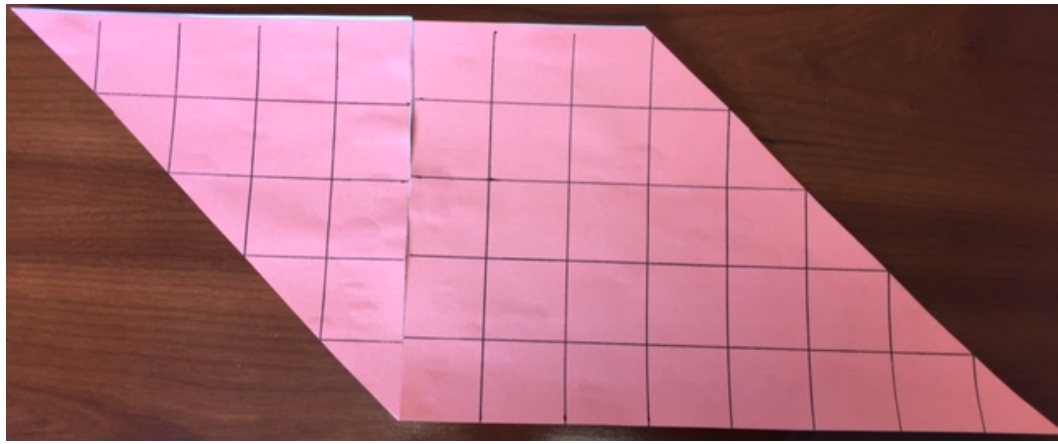
WILLIAM & MARY
CHARTERED 1693

10-AREA WITH INDEX CARDS



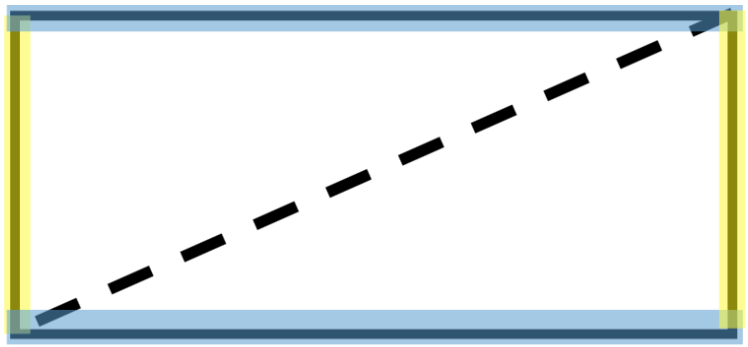
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15

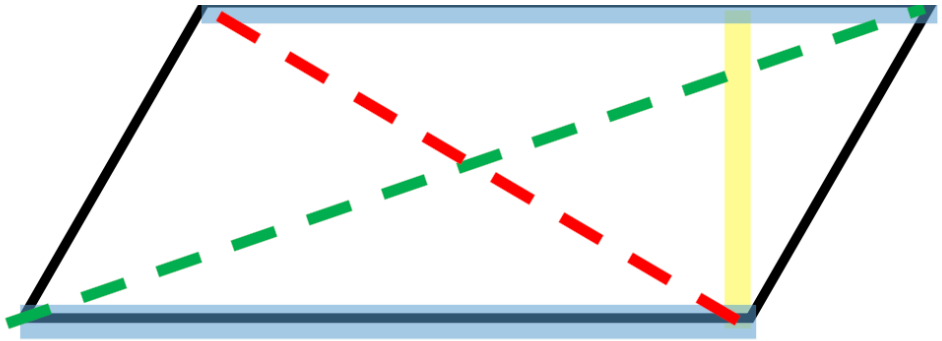
10-AREA WITH INDEX CARDS

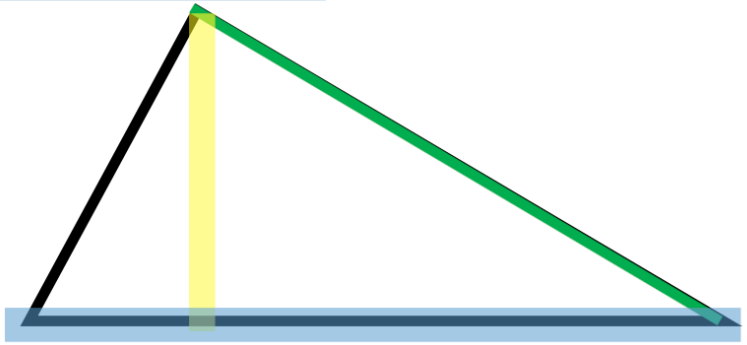


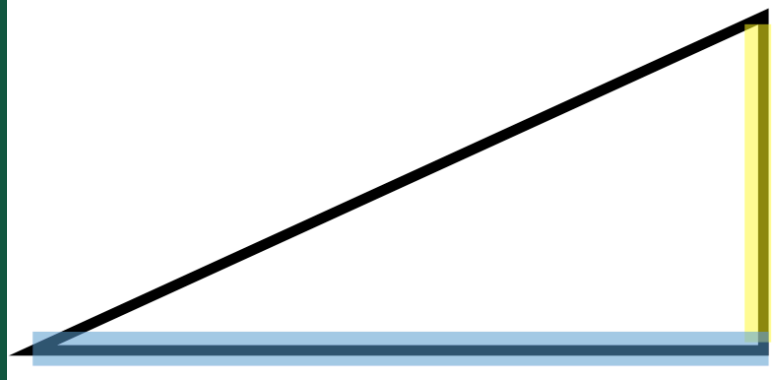
WILLIAM & MARY
CHARTERED 1693

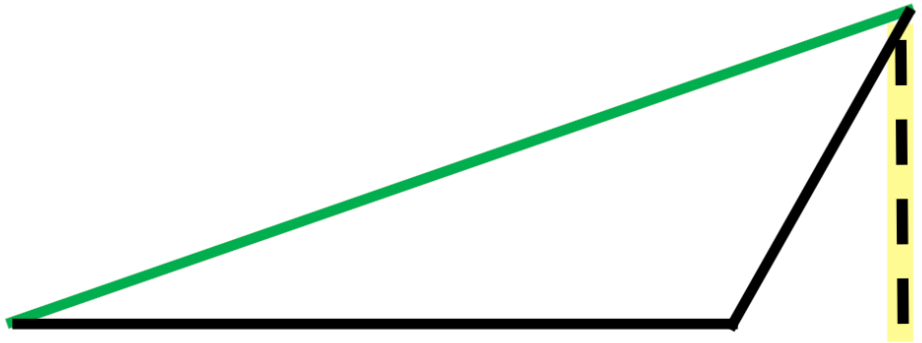
10-AREA WITH INDEX CARDS





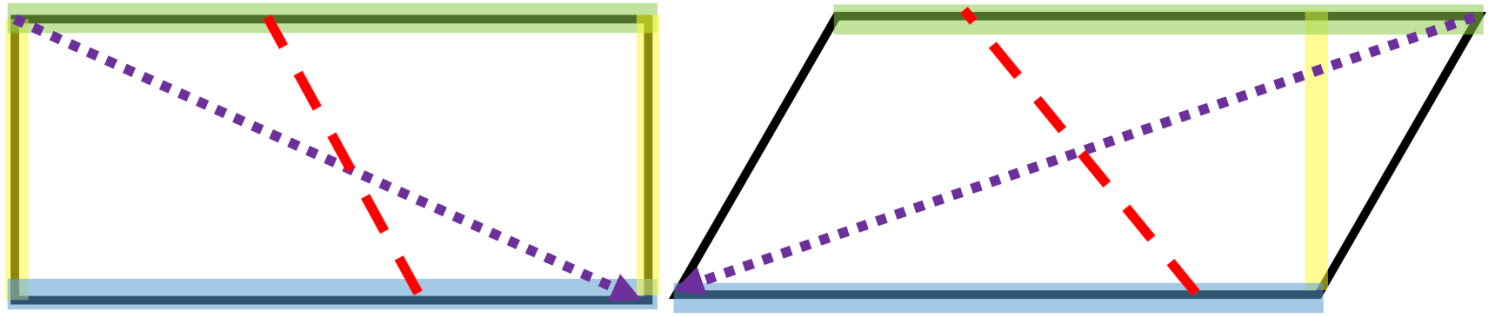


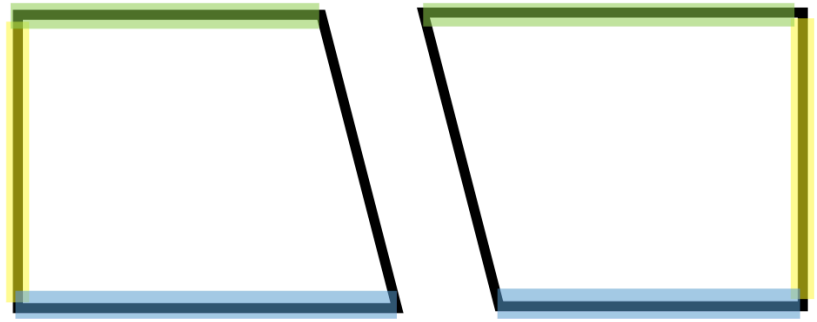


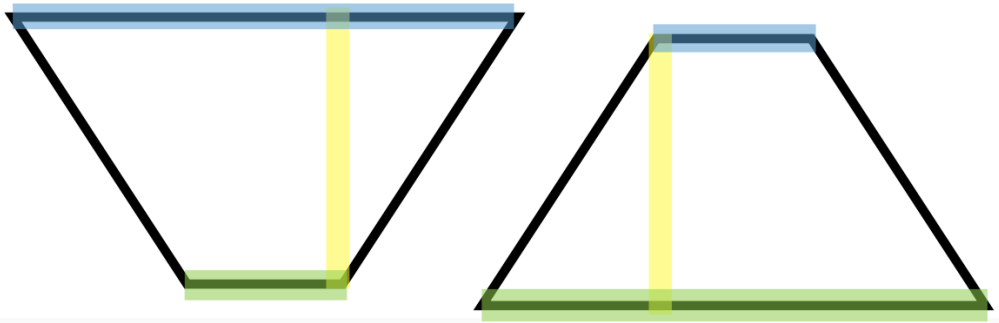


WILLIAM & MARY
CHARTERED 1693

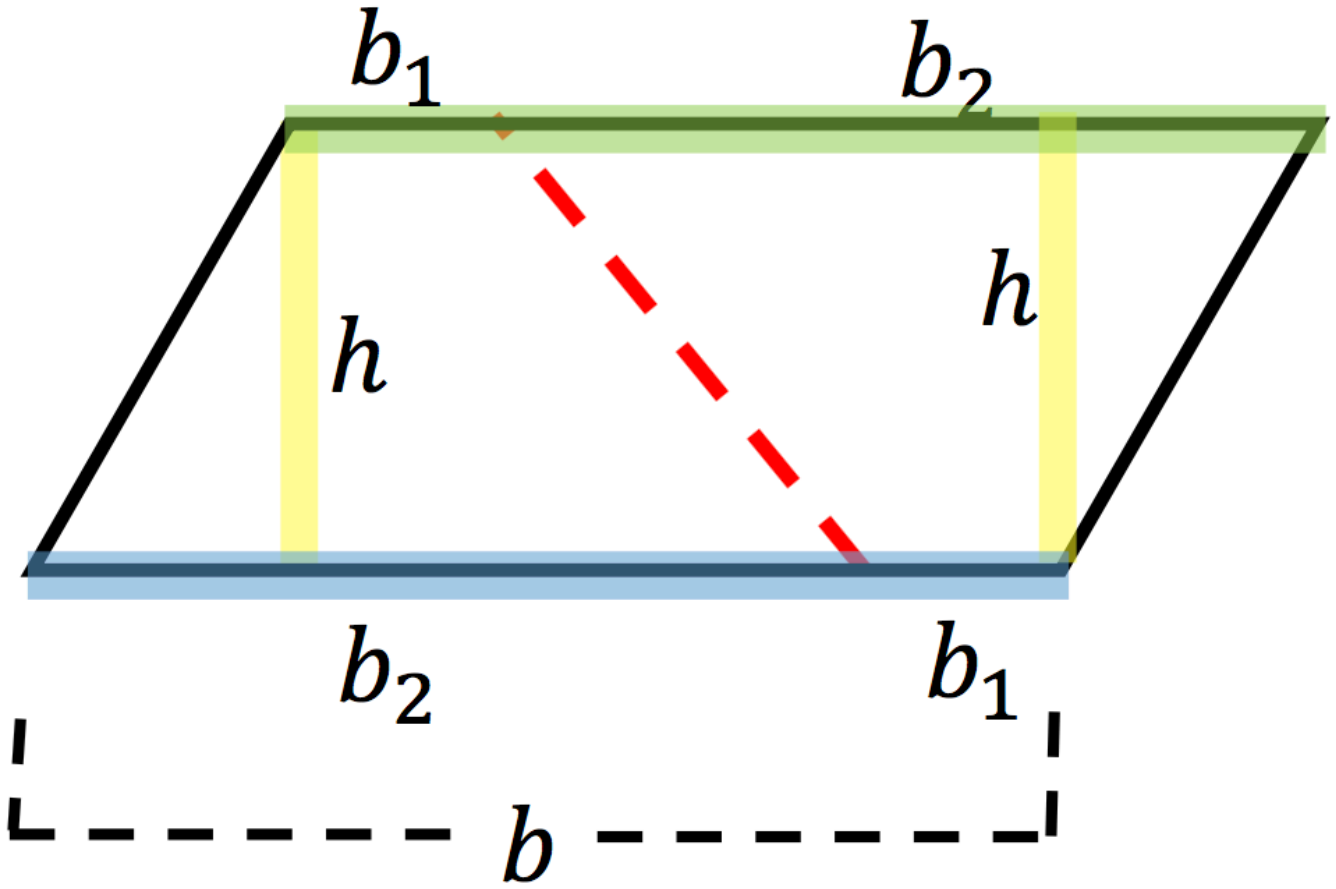
10-AREA WITH INDEX CARDS





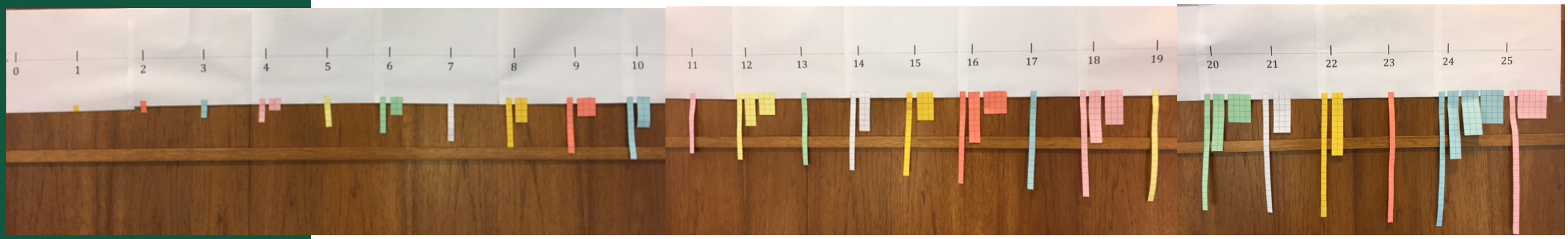


10-AREA WITH INDEX CARDS



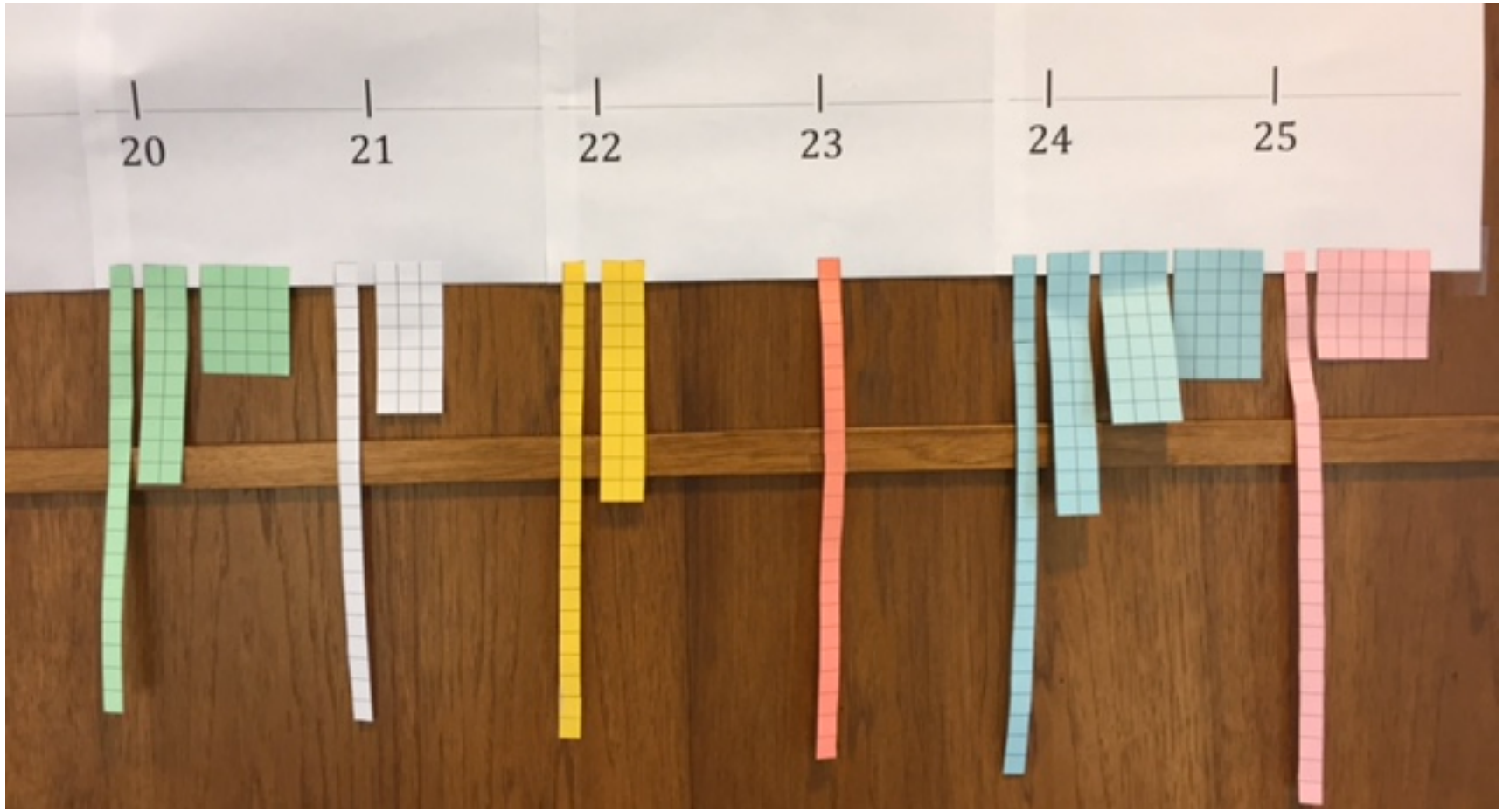
WILLIAM & MARY
CHARTERED 1693

9-NUMBER LINE FACTORS



WILLIAM & MARY
CHARTERED 1693

9-NUMBER LINE FACTORS



WILLIAM & MARY
CHARTERED 1693

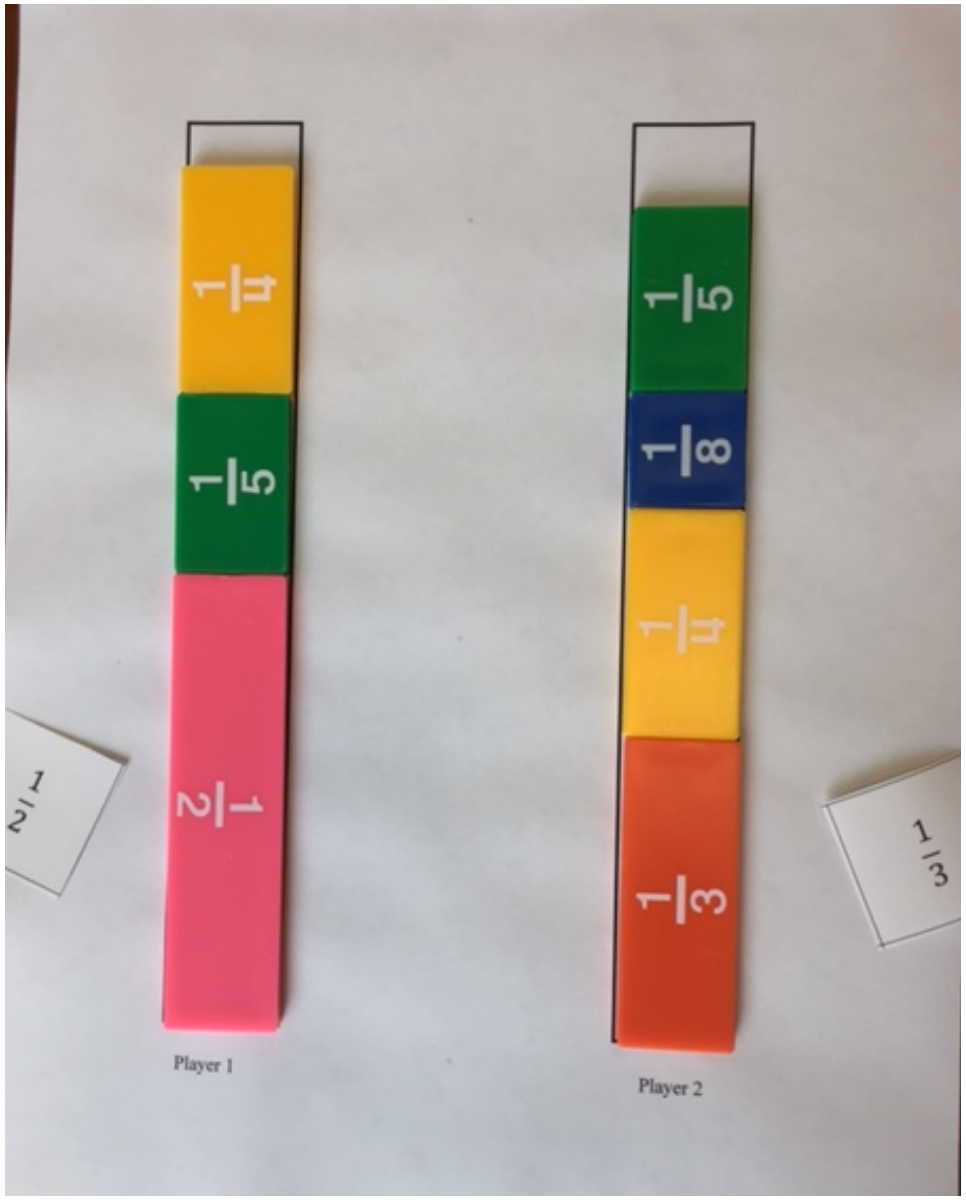
8-CYLINDERS AND RICE

WILLIAM & MARY
CHARTERED 1693

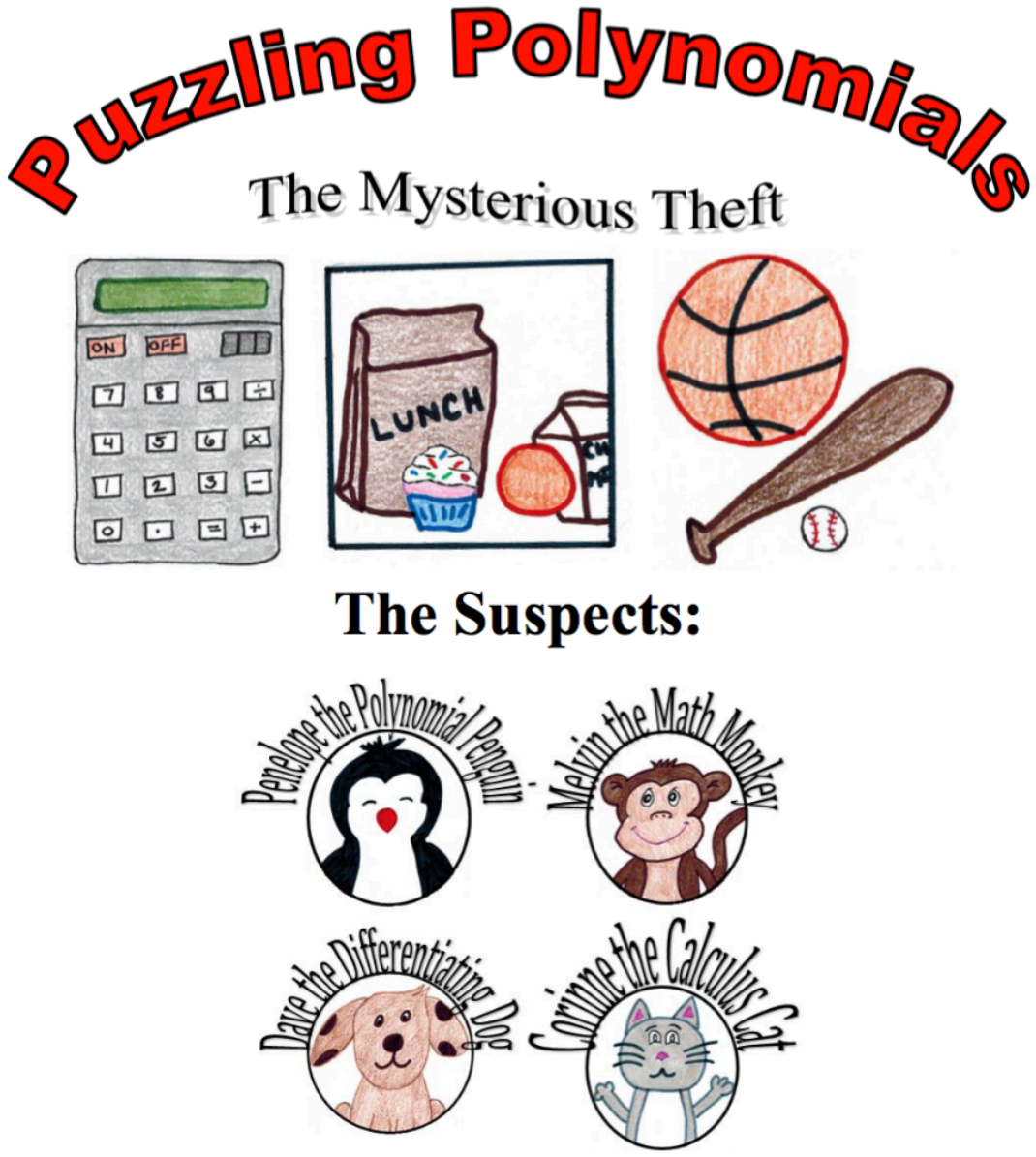
8-CYLINDERS AND RICE

WILLIAM & MARY
CHARTERED 1693

7- UNIT FRACTION GAME



6 – PUZZLING POLYNOMIALS



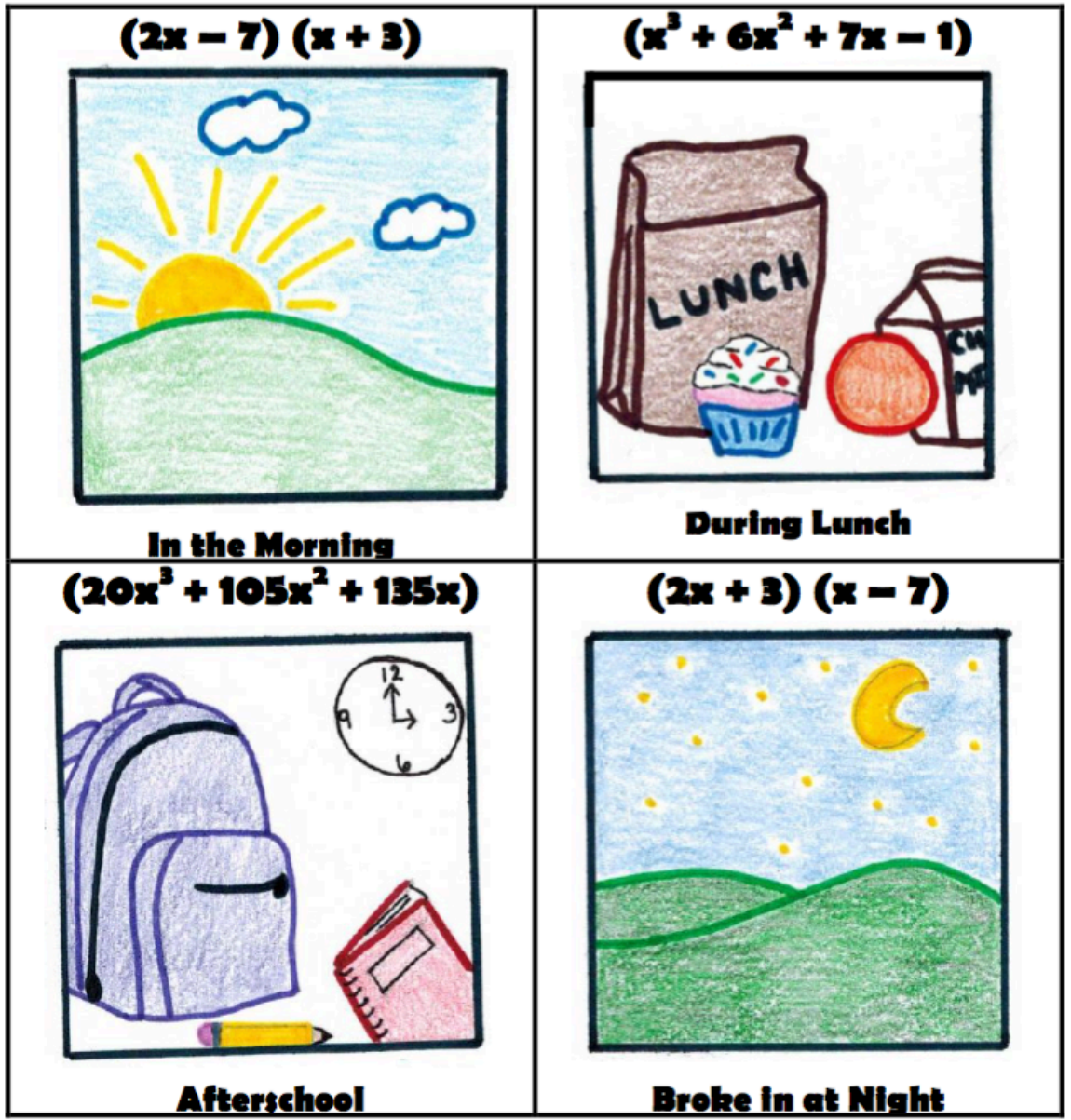
WILLIAM & MARY
CHARTERED 1693

6 – PUZZLING POLYNOMIALS

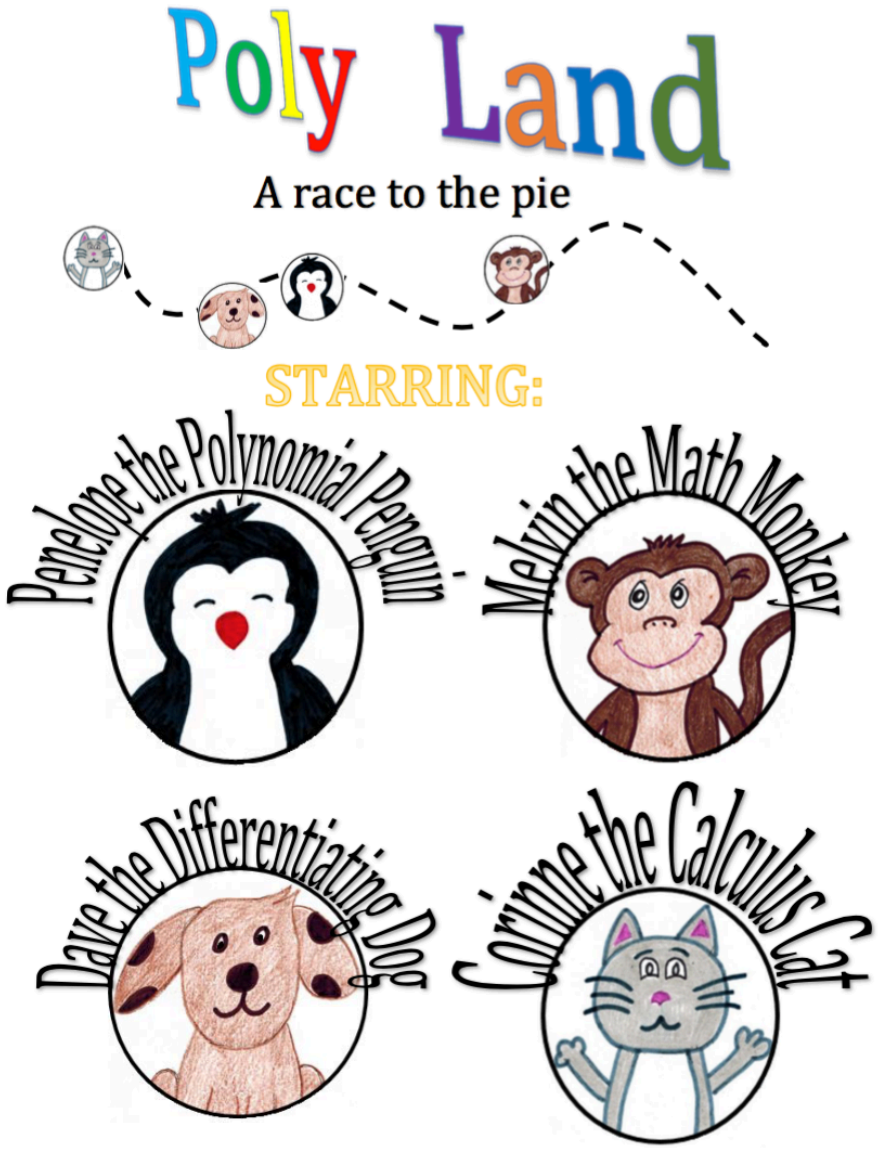
Clue	Problem and Work	Card Eliminated
1	$(2x^3 + 4x^2 - 3x + 2) - (2x^3 + 2x^2 - 2x + 23)$	
2	Factor your answer from number 1	

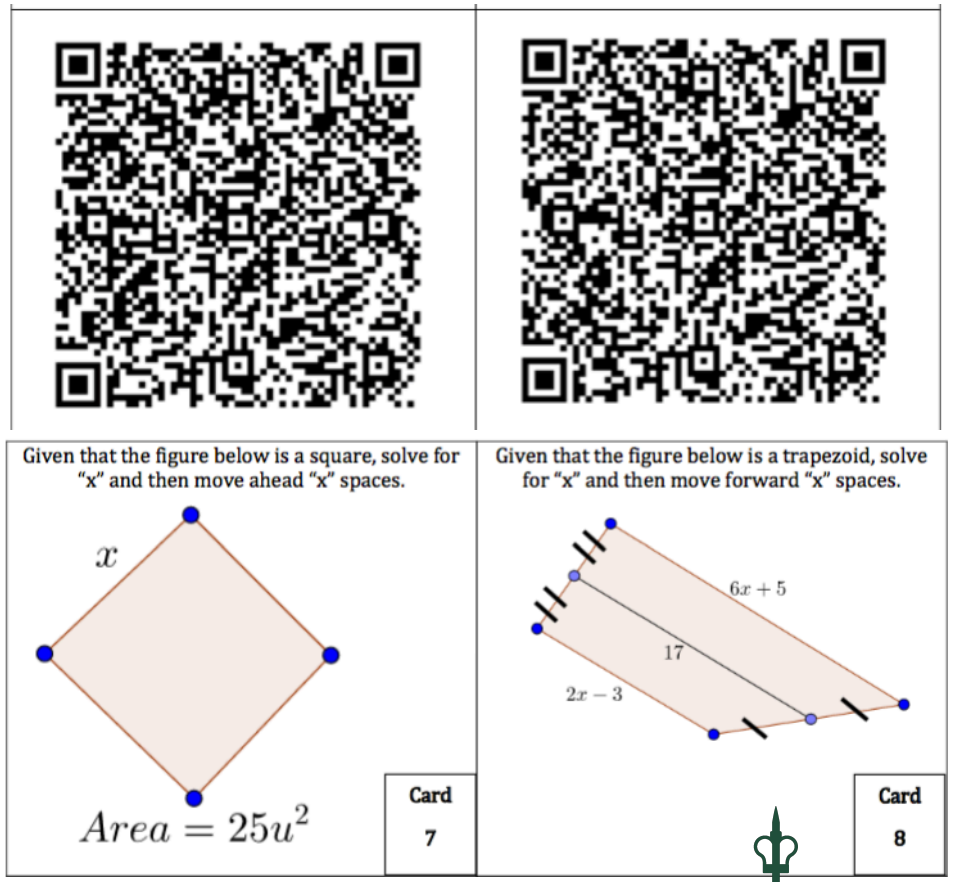
WILLIAM & MARY
CHARTERED 1693

6 – PUZZLING POLYNOMIALS



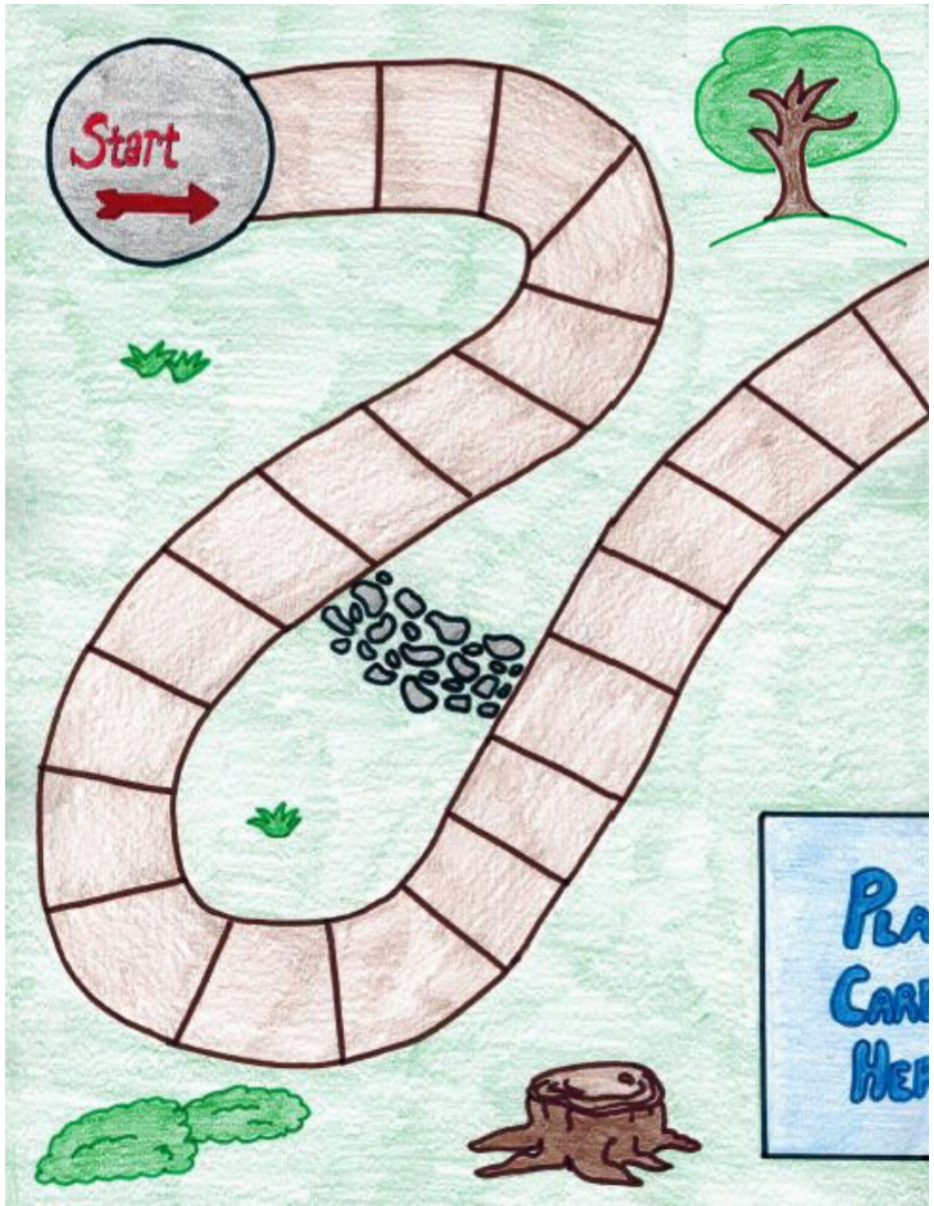
5 – POLY-LAND

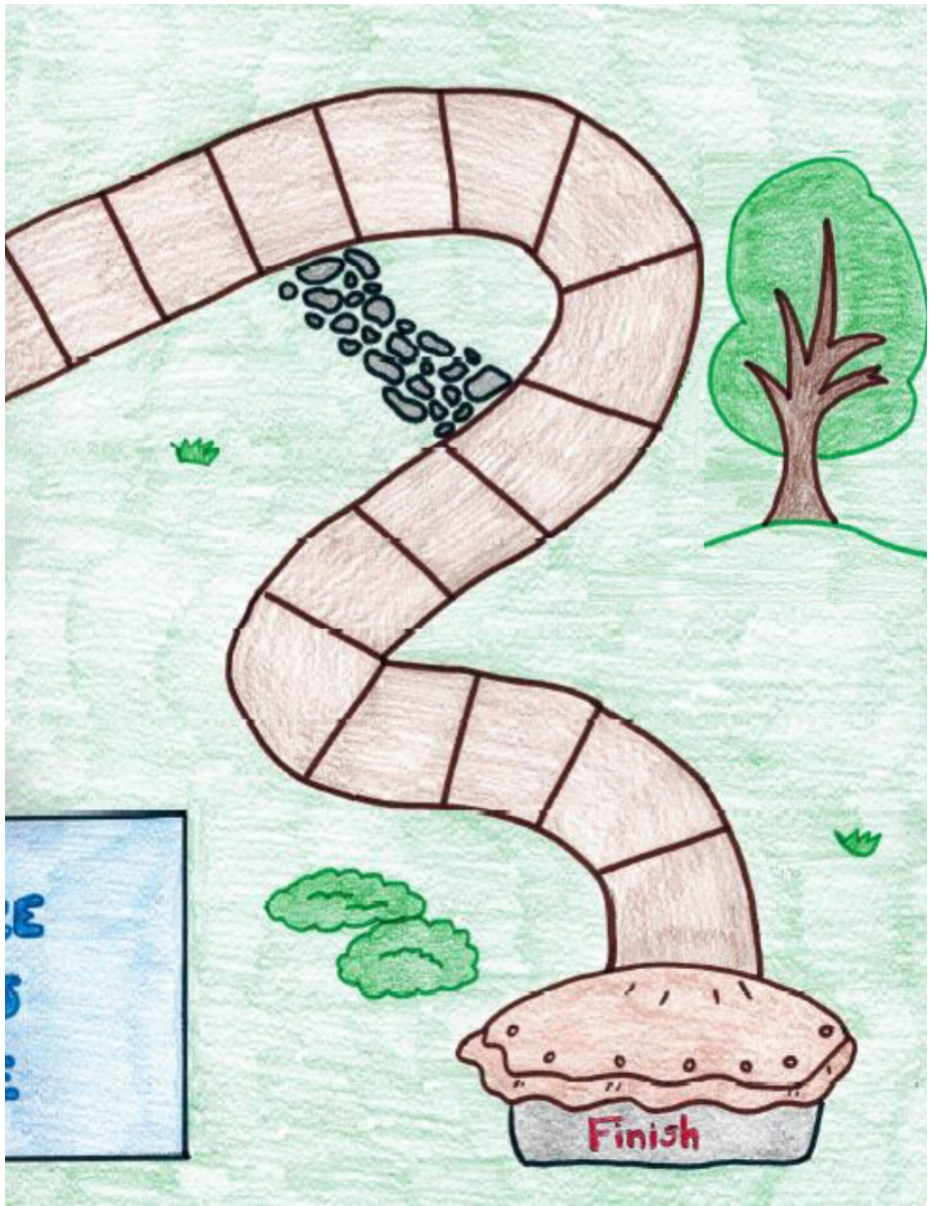

Poly Land
A race to the pie
STARRING:
Penelope the Polynomial Penguin
Melvin the Math Monkey
Dave the Differentiating Dog
Corinne the Calculus Cat


Given that the figure below is a square, solve for "x" and then move ahead "x" spaces.
x
$Area = 25u^2$
Card 7
Given that the figure below is a trapezoid, solve for "x" and then move forward "x" spaces.
$6x + 5$
17
$2x - 3$
Card 8

WILLIAM & MARY
CHARTERED 1693

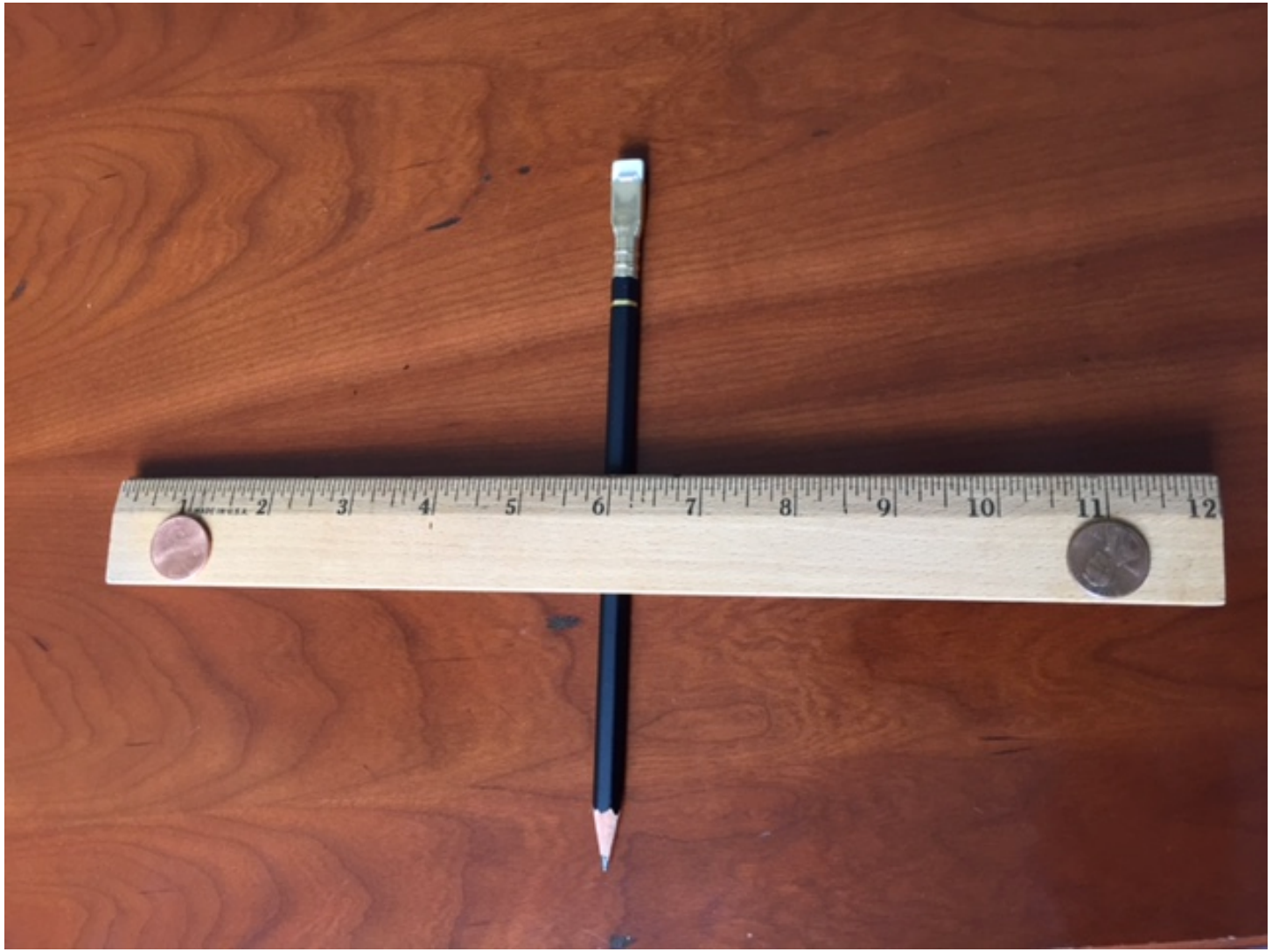
5 – POLY-LAND





WILLIAM & MARY
CHARTERED 1693

4 – MEAN AS A BALANCE POINT

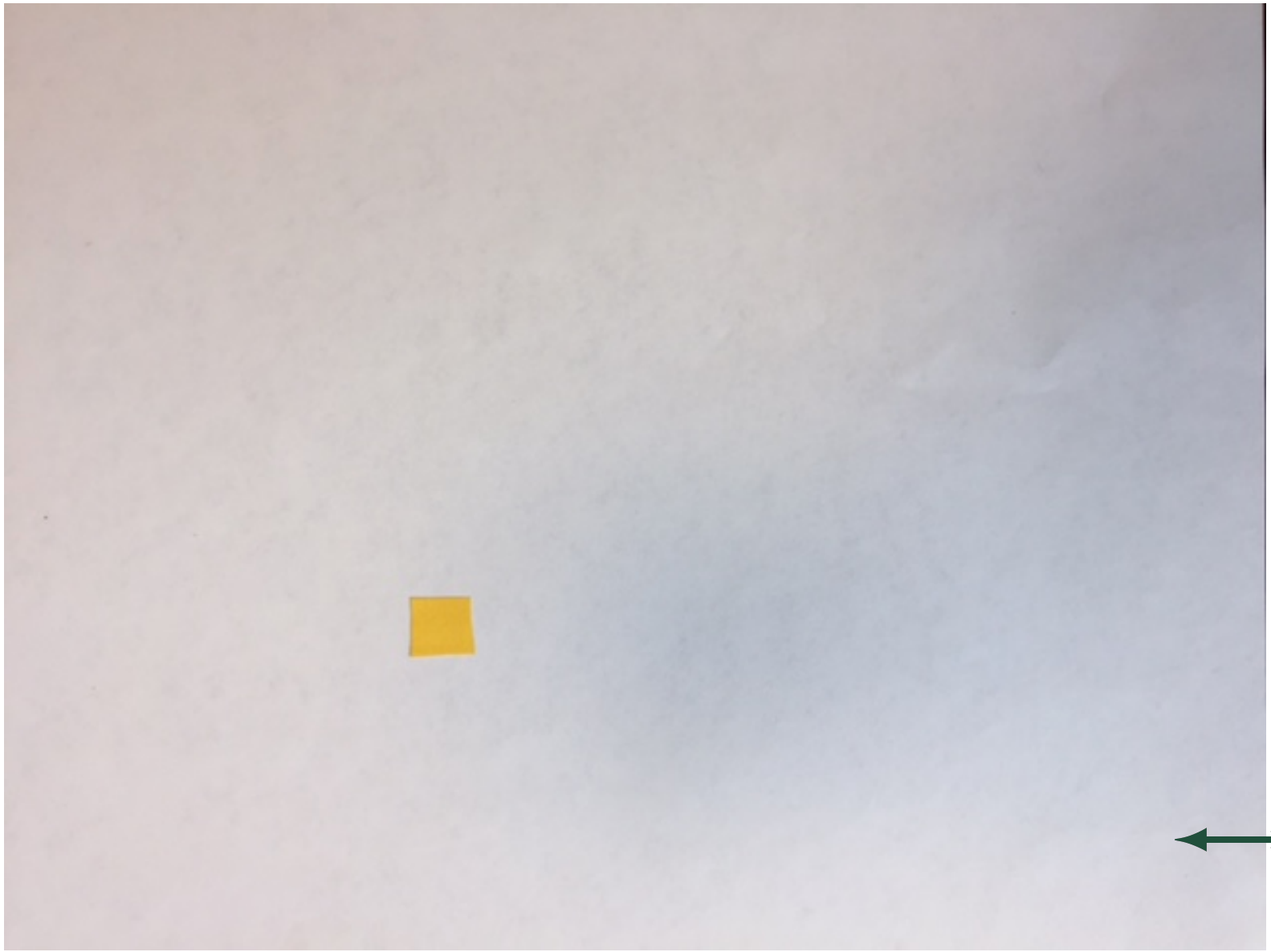


WILLIAM & MARY
CHARTERED 1693

4 – MEAN AS A BALANCE POINT

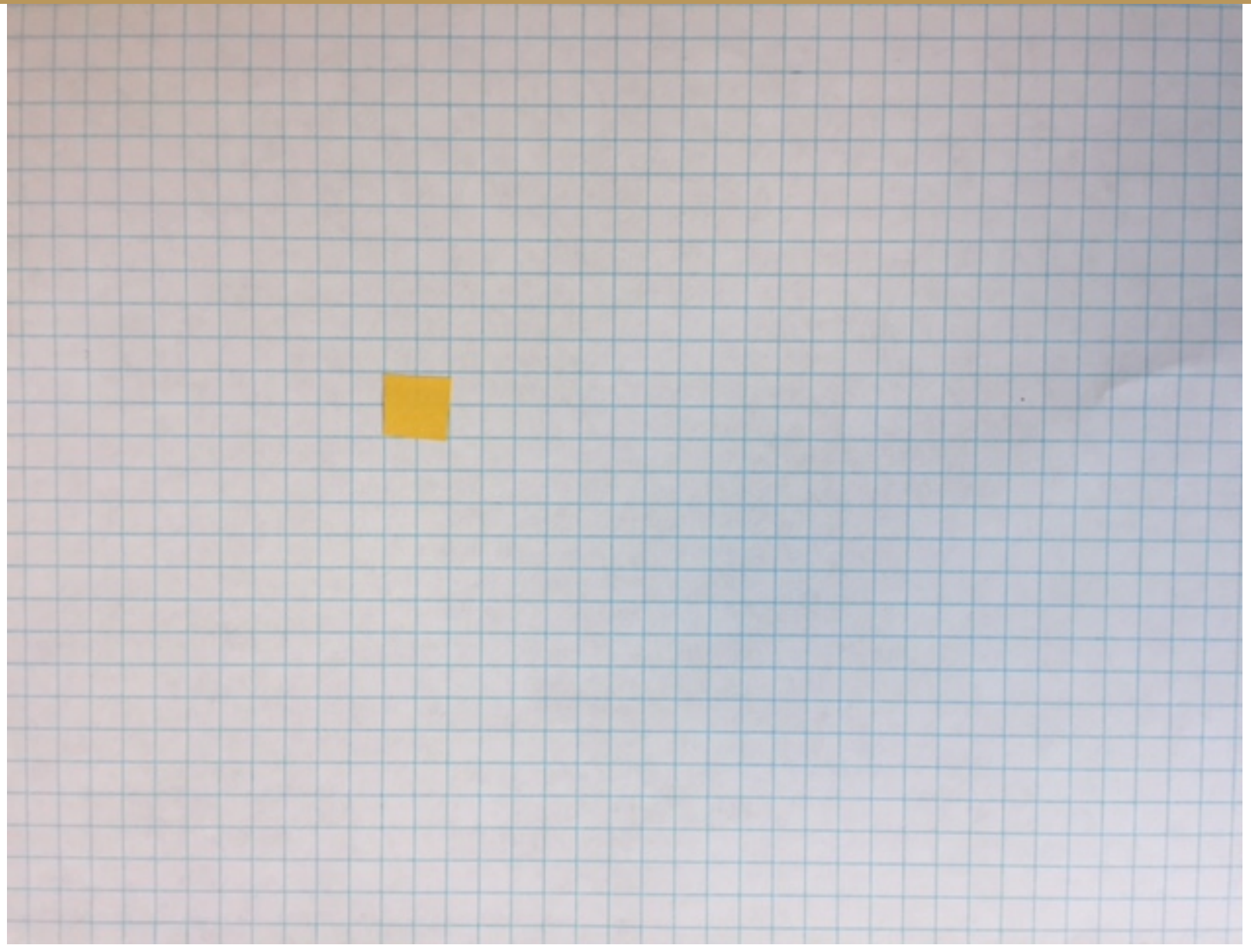
WILLIAM & MARY
CHARTERED 1693

3 - BATTLESHIP



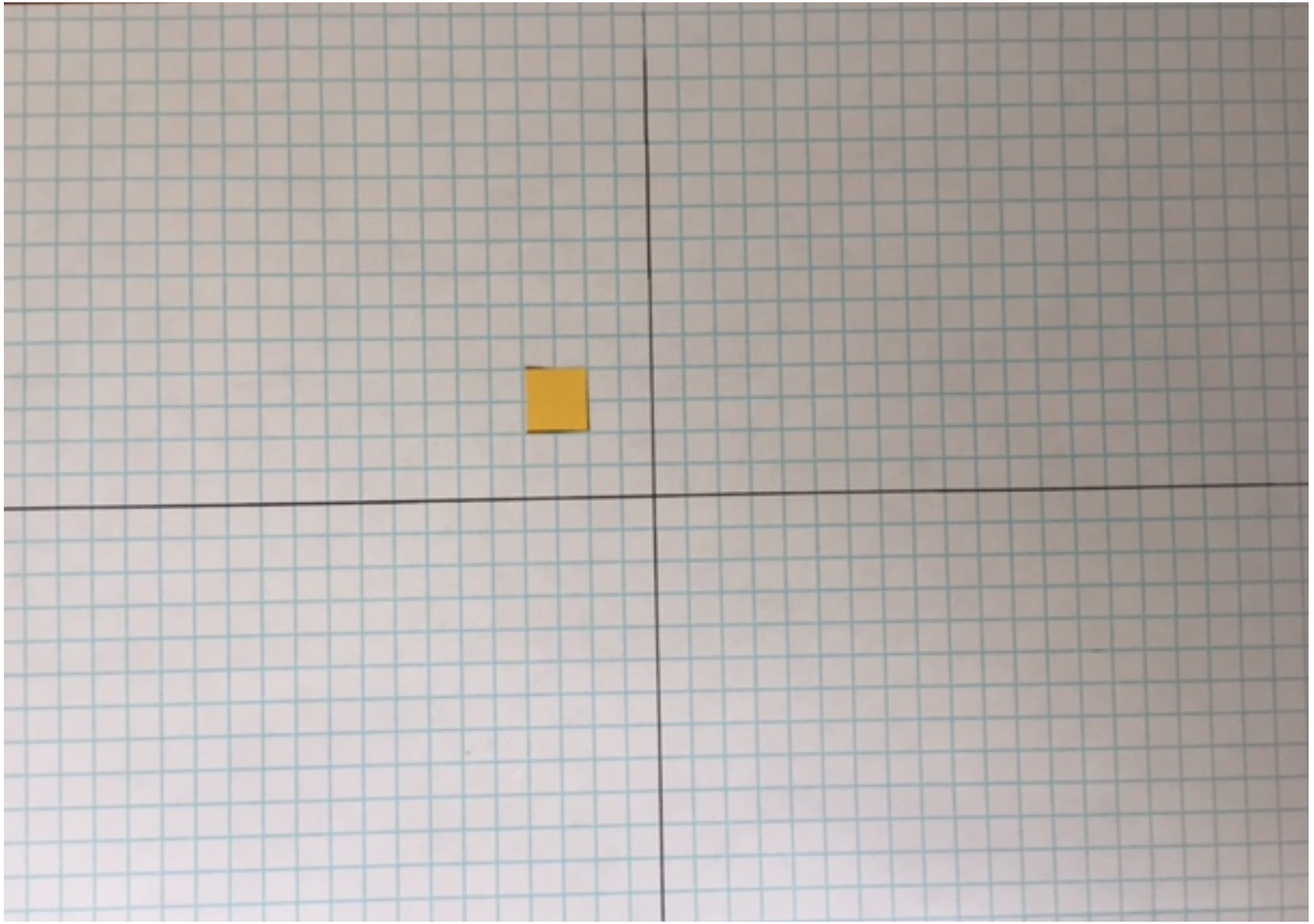
WILLIAM & MARY
CHARTERED 1693

3 - BATTLESHIP



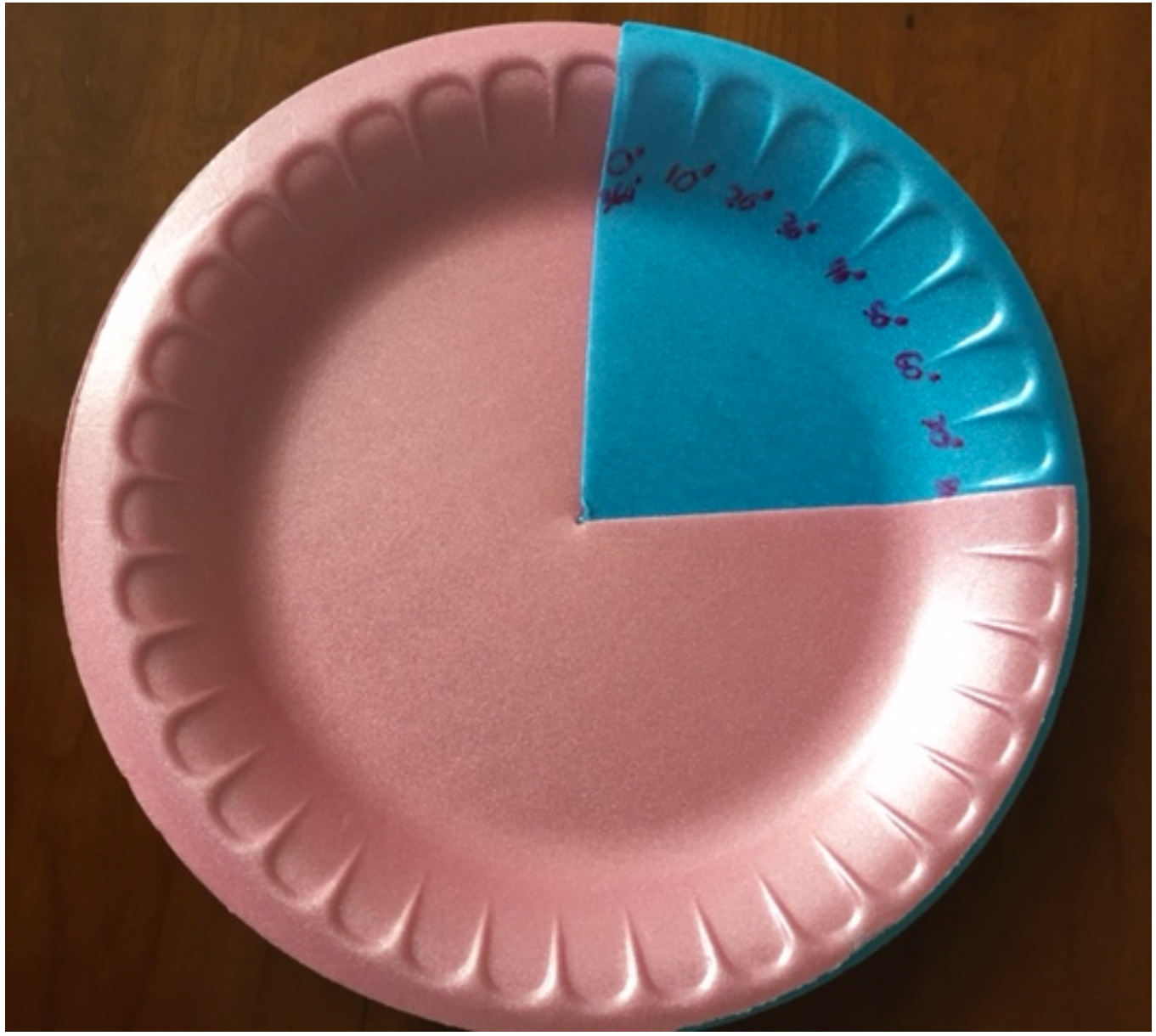
WILLIAM & MARY
CHARTERED 1693

3 - BATTLESHIP



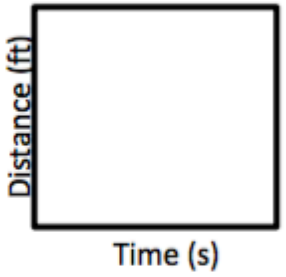
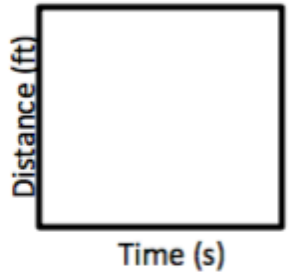
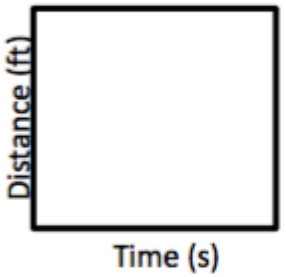
WILLIAM & MARY
CHARTERED 1693

2 – PAPER PLATE MATH



WILLIAM & MARY
CHARTERED 1693

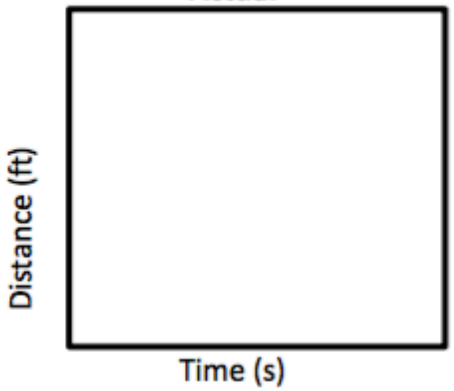
1-RATE OF CHANGE

Original Predictions		
You walk towards the motion detector at a constant speed.	You run towards the motion detector at a constant speed.	You stand still
		

Now, lets test your predictions. Perform the following experiment and sketch a picture of your results!

1. Draw a picture of you walking away from the motion detector at a constant speed:

Actual



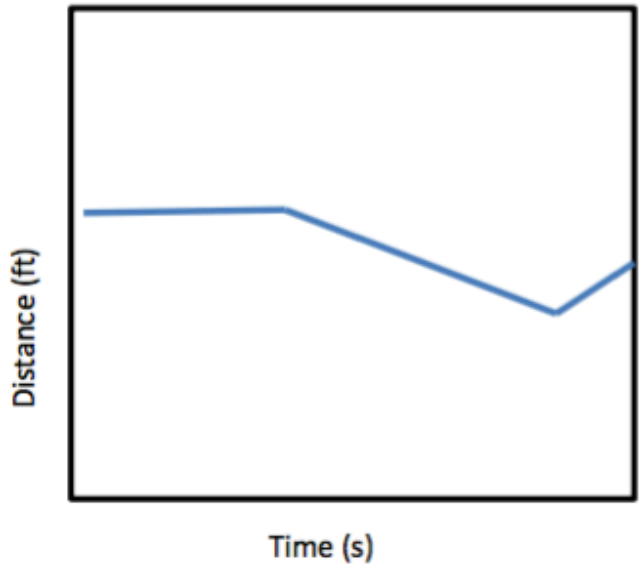
Reflection of results

Compare your actual results to your prediction. Using what you notice, make some predictions about how rate of change graphs behave:

1-RATE OF CHANGE

Part 3 GROUP A: Try to make the following graph. Your group will be asked to present the following:

1) How did you make the graph? (Use specific descriptors)
2) How did you know what to do? (i.e. How did you know what the graph was telling you what to do?)
3) What did you learn about rate of change graphs?



Describe what you had to do to make the graph and prepare notes for your presentation:

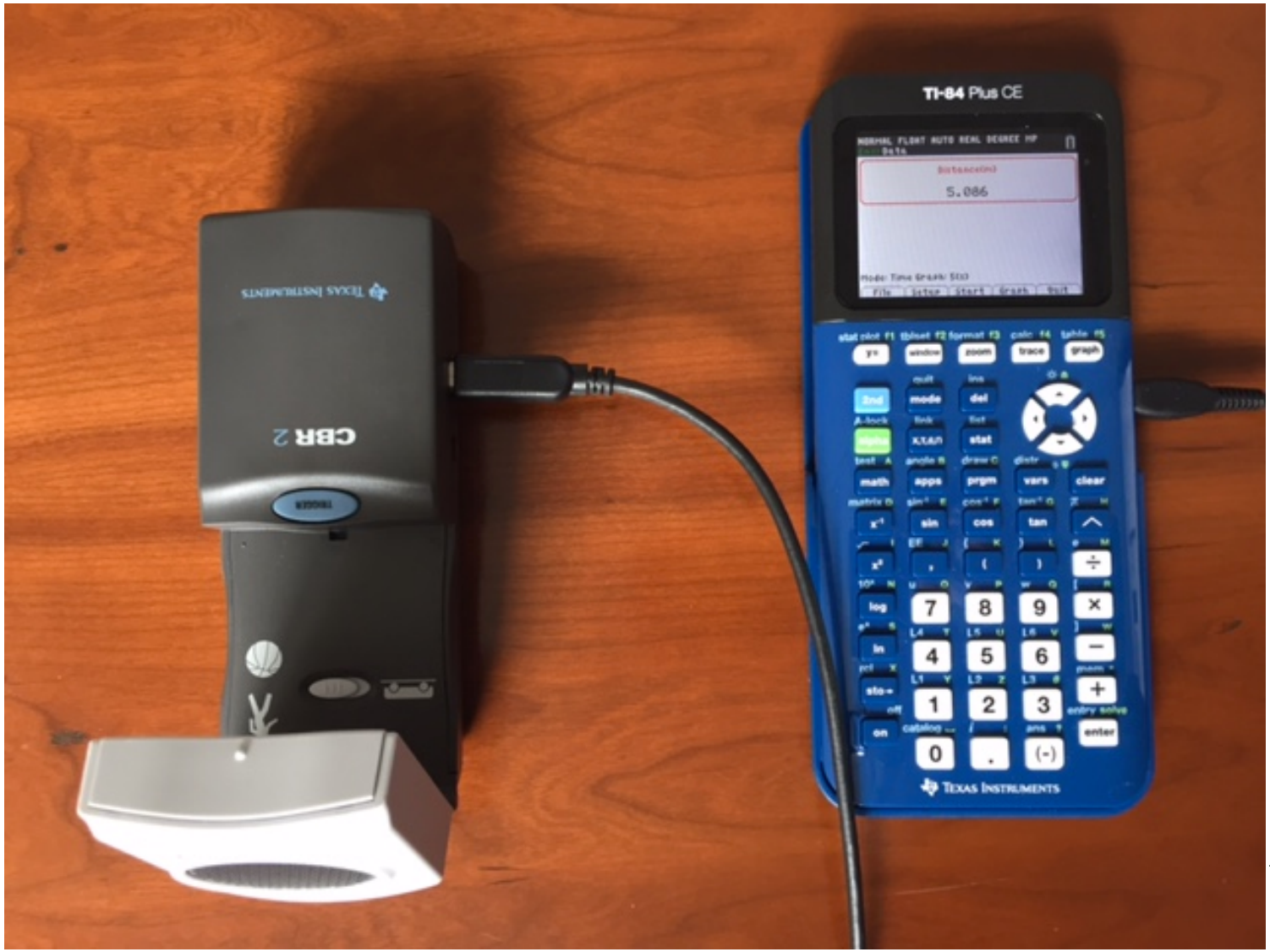
_____

_____

_____

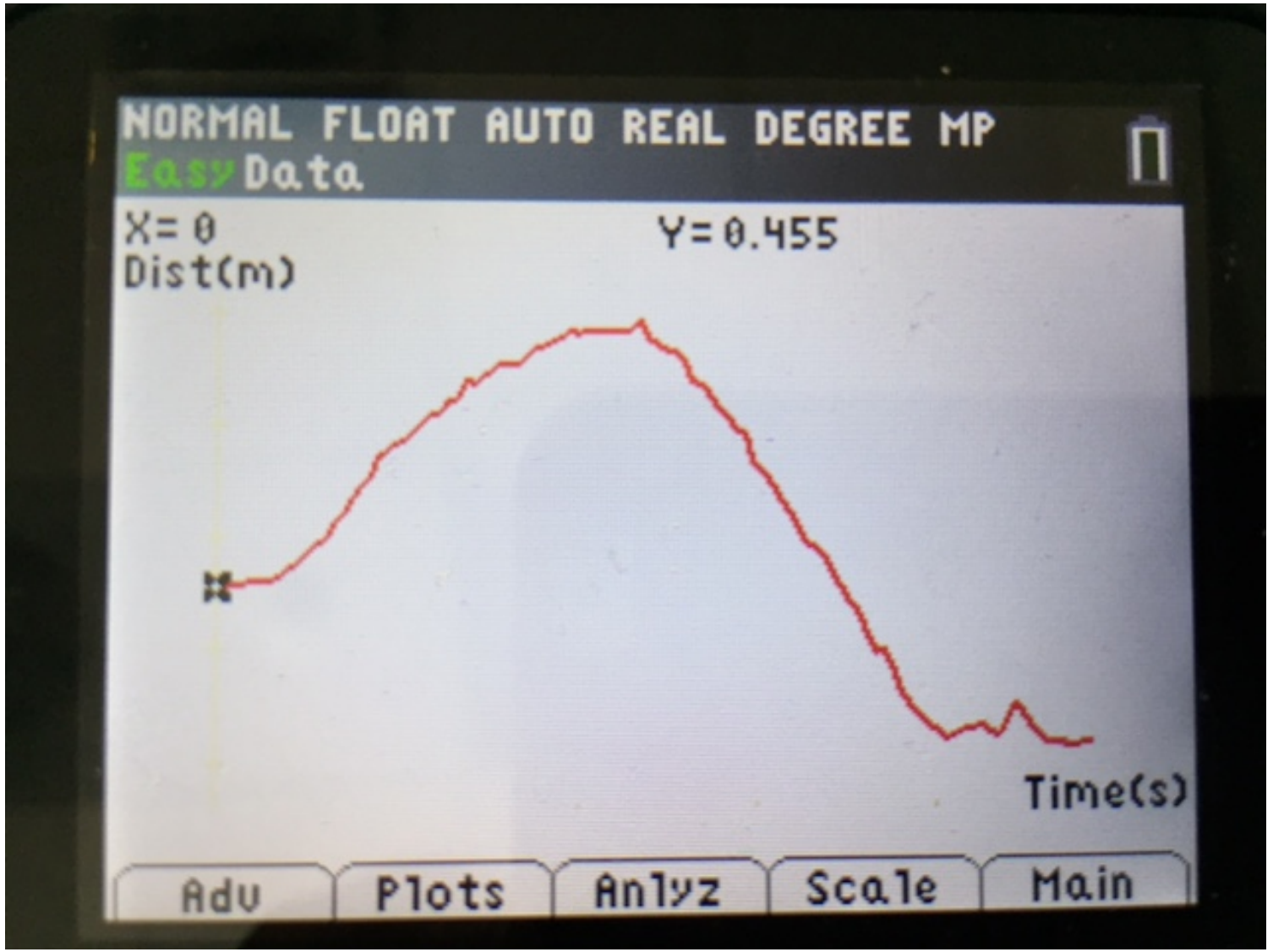
WILLIAM & MARY
CHARTERED 1693

1-RATE OF CHANGE



WILLIAM & MARY
CHARTERED 1693

1-RATE OF CHANGE



WILLIAM & MARY
CHARTERED 1693

QUESTIONS/CONTACT

Please feel free to contact us at:

Sam Rhodes – srrhod@wm.edu

Dr. Margie Mason – mmmaso@wm.edu

NCTM 2017 ANNUAL

Rate this presentation on the conference app!

Search "NCTM" in your app store or follow the link at nctm.org/confapp to download

Join in the conversation! #NCTMannual

Download available presentation handouts from the online planner at nctm.org/planner