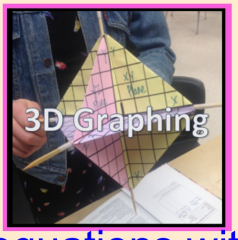
Welcome Back MYP Math 9!

Self-assess:

	Assignment Effort Grade (Circle One)	Comments (What was interesting or challenging?)
Monday Date: 10-2 Topic: Systems Quiz Friday	0 1 2	I began reviewing my notes for the upcoming unit test.
Tuesday Date: 10-3 Topic: Systems of Equations Review	0 1 2	I learned from my mistakes and practiced problems that were hard for me!
Wednesday Date: 10-4 Topic: Linear Regression Application Review	0 1 2	
Thursday Date: _____ Topic: _____	0 1 2	
Friday Date: _____ Topic: _____	0 1 2	

Class Plan:



1. Warm-up
2. 3D Graphing
   - Create model
   - Solve system of equations with 3 variables by graphing
4. Joke break :)

Unit 1 Test
Friday, October 6th

Warm-up:

Solve the system using elimination
(combine equations...see what you can do!)

$$\begin{aligned} x + y + z &= 4 \\ x - y + z &= 4 \\ -x + y + z &= 2 \end{aligned}$$

$y = 0$

$2z = 6$

$z = 3$

$2y + 2z = 6$

$y + z = 3$

$y + 3 = 3$

$y = 0$

$x + 0 + 3 = 4$

$x + 3 = 4$

$x = 1$

$(1, 0, 3)$

Warm-up: Solution!

$$\begin{aligned} x + y + z &= 4 \\ x - y + z &= 4 \\ -x + y + z &= 2 \end{aligned}$$

$2x + 2z = 8$

$\frac{2z}{2} = \frac{6}{2}$

$z = 3$

$1 + y + 3 = 4$

$y = 0$

$2x + 2(3) = 8$

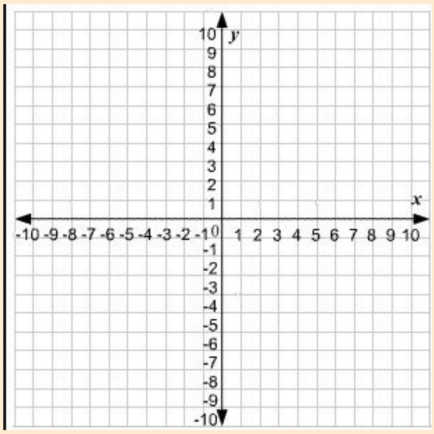
$2x + 6 = 8$

$-6 \quad -6$

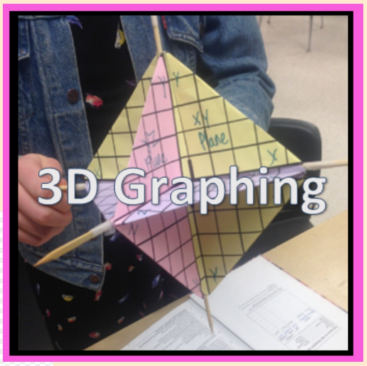
$2x = 2$

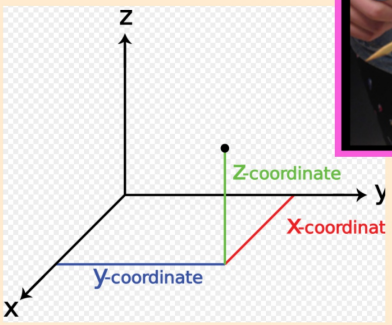
$x = 1$

2D Graphing



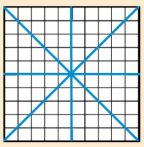
3D Graphing

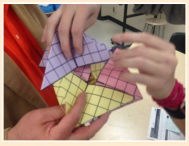




Building the 3D Graph

1. Cut out squares
2. Fold squares
3. Pop up squares
4. Fit together pieces

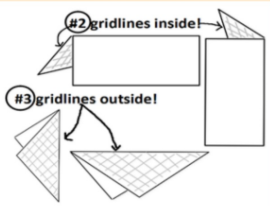


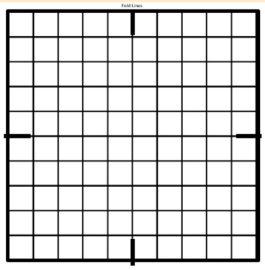


Building the 3D Graph

Directions:

1) Cut the 10x10 square out carefully. Cut along the large outside bold square.
2) Fold (make really good creases) the large square in half both directions with the **gridlines** on the **INSIDE**.
3) Fold the large square in half both directions **DIAGONALLY** with the **gridlines** on the **OUTSIDE**.
4) When you are done you should have a tent like origami thing with grid lines facing out.



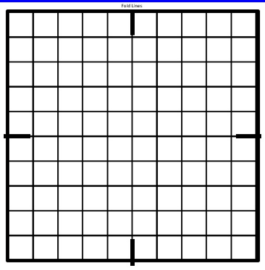


Building the 3D Graph

1) Cut out 10 x 10 square

Ignore tape until the VERY end!

It will look like this!

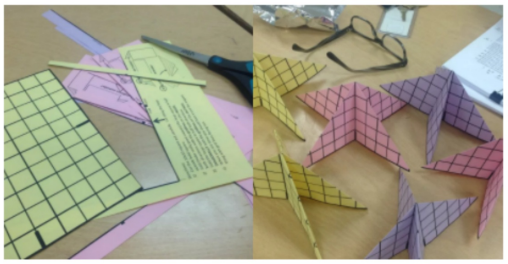


Recycle scraps in buckets!

Building the 3D Graph

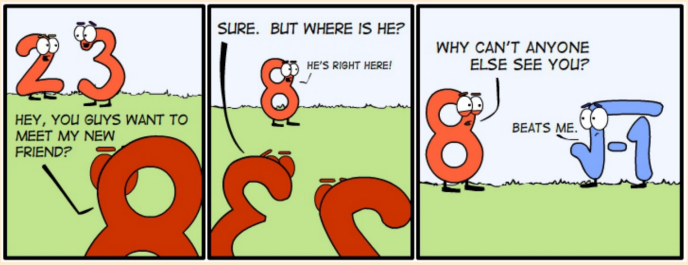
2) Fold in half both ways, lines on the "inside".

3) Fold in half both ways - along the diagonals, lines on the "outside".



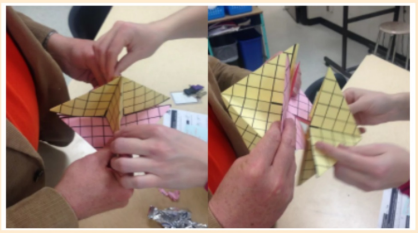
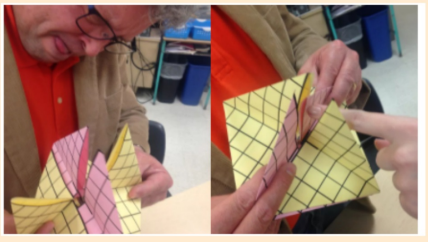
After step 3, yours should look like this!

Joke break :)



$\sqrt{-8} = 8i \quad \sqrt{-1} = ?$

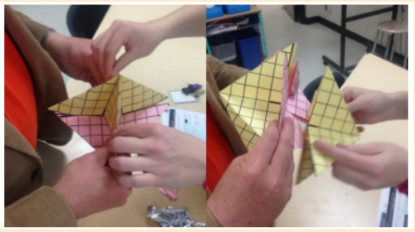
Building the 3D Graph

Building the 3D Graph

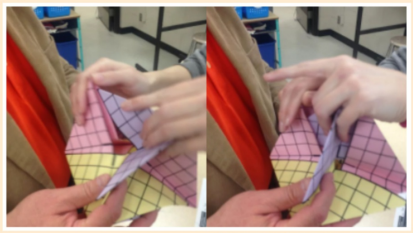
1) Line up the bases of your pink tents.

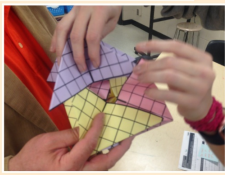
2) With a partner, cover two pink tents with 2 yellow tents.



Building the 3D Graph

Weave the white tents "INTO" the pink and "ONTO" the yellow tents.





Scissors & tape in buckets!

Initial your model!

3D Graphing
MYP 9 Math

Name_____Hr_____

Once you have built your 3D model, you will use it to solve this 3x3 system by….graphing!

$$\begin{aligned} x + y + z &= 4 \\ x - y + z &= 4 \\ -x + y + z &= 2 \end{aligned}$$

First we'll need some points to graph. Complete the following tables for each of the 3 equations. Note! There may be more than one correct answer for each row.

First we'll need some points to graph. Complete the following tables for each of the 3 equations. Note! There may be more than one correct answer for each row.

1) a. Find values to finish each of the rows using this equation. Essentially, you need 3 numbers that sum to 4.

$x + y + z = 4$

x	y	z
0		
	0	
		0
0		

b. When you have a complete table, choose one marker color and graph all four points on the 3D model.

c. Once those are graphed, write down what you notice about where those points are below. What shape are they forming?

d. The point (2, 1, 1) is a solution to the equation $x + y + z = 4$. Where would it be graphed on your model?

2) Complete the following tables and choose a DIFFERENT color for each equation to graph the points on your model.

Equation: $x - y + z = 4$

x	y	z
0		
	0	
		0
	0	

Equation: $-x + y + z = 2$

x	y	z
0		
	0	
		0
		0

3) Add points as you need to in order to find the solution. If you are struggling, try to visualize where ALL the points are on a specific equation. We can only see points on the axes right now. Where else might points be that would fit some of your equations? (Go back to your answer for problem 1d.)

4) In 2 variable problems, each equation represents a LINE, and the intersection of two lines is the solution to the system of those two lines.
In 3 variable problems, each equation represents a _____.

What is the visual image for the solution to a system of 3 variables?

What would it look like if there were NO solution to a 3 variable problem?

What would it look like if there were INFINITE solutions to a 3 variable problem?

Are there any other possible answers for a 3 variable problem?