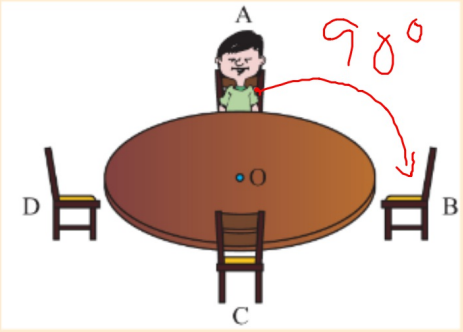
Welcome Back MYP Math 9!

	Assignment Effort Grade (Circle One)	Comments (What was interesting or challenging?)
Monday Date: 1 - 8 Topic: No homework over break :)	0 1 2	
Tuesday Date: 1 - 9 Topic: 16A Translations	0 1 2	
Wednesday Date: 1 - 10 Topic: 16B Reflections	0 1 2	
Thursday Date: 1 - 11 Topic: Transformation Ordered Pair Rules	0 1 2	
Friday Date: _____ Topic: _____	0 1 2	

Warm-up: What does Bill need to do in order to move to different chairs?



reflect from A to C

Rotation 90° Clockwise

Chapter 16 Transformations

Class Plan:

1. Warm-up

2. Desmos Transformation Golf & Des-Patterns

Lunch A		
1st Hour	10:05-10:38	33 minutes
2nd Hour	10:43-11:16	33 minutes
3rd Hour	11:21-11:54	33 minutes
Lunch A	11:59-12:29	30 minutes
4th Hour	12:34-1:07	33 minutes
5th Hour	1:12-1:45	33 minutes
6th Hour	1:50-2:23	33 minutes
7th Hour	2:28-3:00	32 minutes

Lunch B		
1st Hour	10:05-10:38	33 minutes
2nd Hour	10:43-11:16	33 minutes
3rd Hour	11:21-11:54	33 minutes
4th Hour	11:59-12:32	33 minutes
Lunch B	12:37-1:07	30 minutes
5th Hour	1:12-1:45	33 minutes
6th Hour	1:50-2:23	33 minutes
7th Hour	2:28-3:00	32 minutes

Lunch C		
1st Hour	10:05-10:38	33 minutes
2nd Hour	10:43-11:16	33 minutes
3rd Hour	11:21-11:54	33 minutes
4th Hour	11:59-12:32	33 minutes
5th Hour	12:37-1:12	33 minutes
Lunch C	1:17-1:45	30 minutes
6th Hour	1:50-2:23	33 minutes
7th Hour	2:28-3:00	32 minutes

Technology Expectations:

Off task use can result in loss of technology privileges in class.

Inapproapriate use can result in loss of technology privileges in school completely.

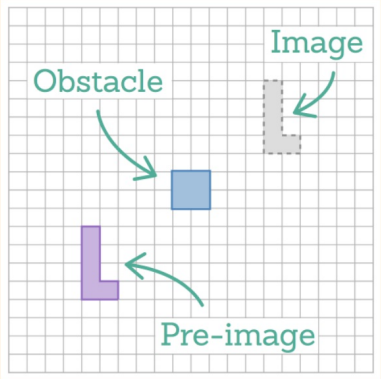
Quiet on-task mathematical discussions are encouraged with tablemates.

Desmos.com

- Explore Transformations!

Do: Transformation Golf & Des-Patterns

Use technology - quietly work with partners



Done? Do problems on backside

Desmos.com

- *Explore Transformations!* 8 G R 7 X

Golf Transformation (Avoid the obstacle!)

1) **Go to student.desmos.com** and enter **8 G R 7 X** for the *class code.*

2) Follow instructions and use math vocabulary. How many steps did you take? **Challenge yourself to use the least amount of steps/transformations!!**

Des-Patterns (Writing Rules) Practice

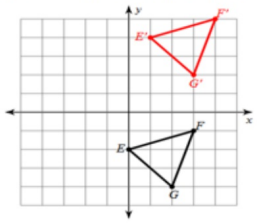
1) **Go to student.desmos.com** and enter **G 8 S K 3** for the *class code.* G 8 S K 3

2) Follow instructions and practice transforming using coordinate rules.

Reflect: What did you notice while you played the games?

Recall from yesterday....

1) translation: 1 unit right and 6 units up



The translation at the left has a coordinate pair rule of

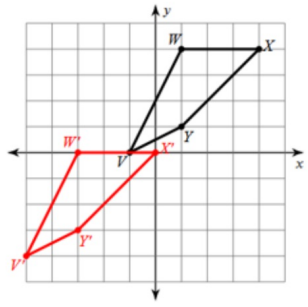
$(x, y) \rightarrow (x+1, y+6)$

Remember:

1) ***Right*** and ***up*** are in the **positive (+)** direction.

1) ***Left*** and ***down*** are in the **negative (-)** direction.

translation: 4 units left and 4 units down



Using the example at the left: Write the coordinate pair rule for the translation.

$(x, y) \rightarrow (x\_\_\_\_, y\_\_\_\_)$

Remember:

1) ***Right*** and ***up*** are in the **positive (+)** direction.

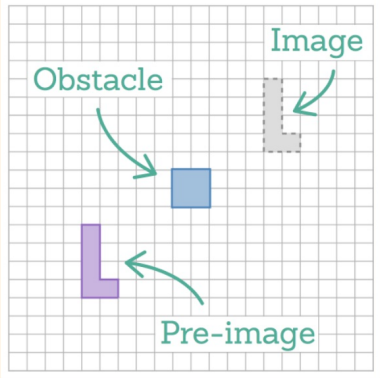
1) ***Left*** and ***down*** are in the **negative (-)** direction.

Answer: $(x, y) \rightarrow (x-4, y-4)$

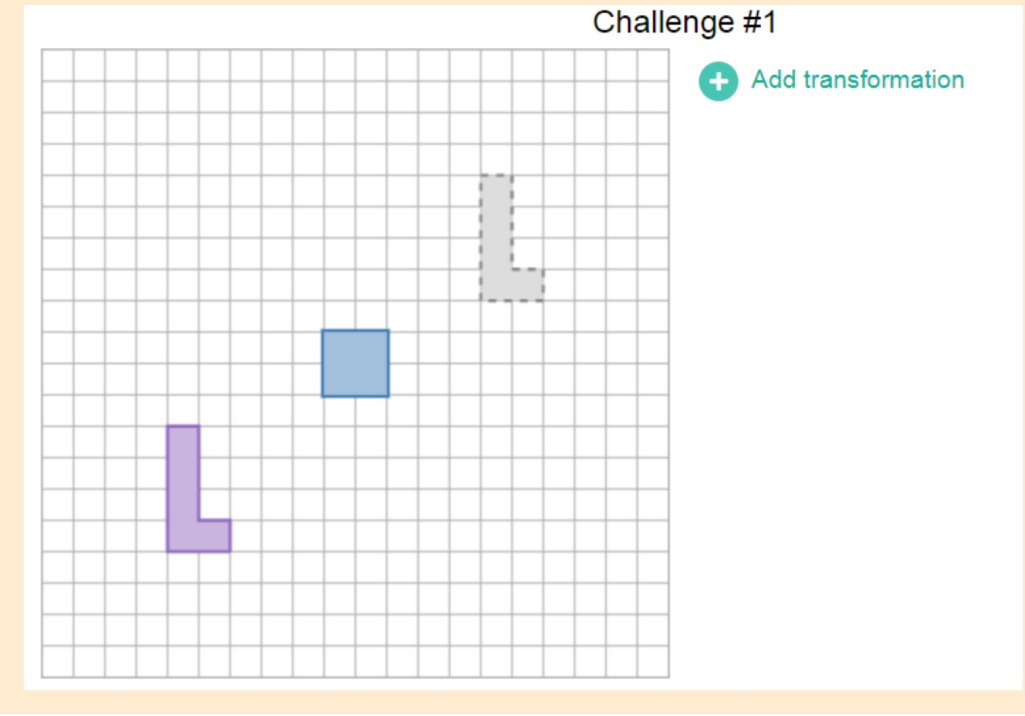
Transformation Golf - Desmos.com

In this activity, you'll use your understanding of translations, reflections, and rotations to complete a round of transformation golf.

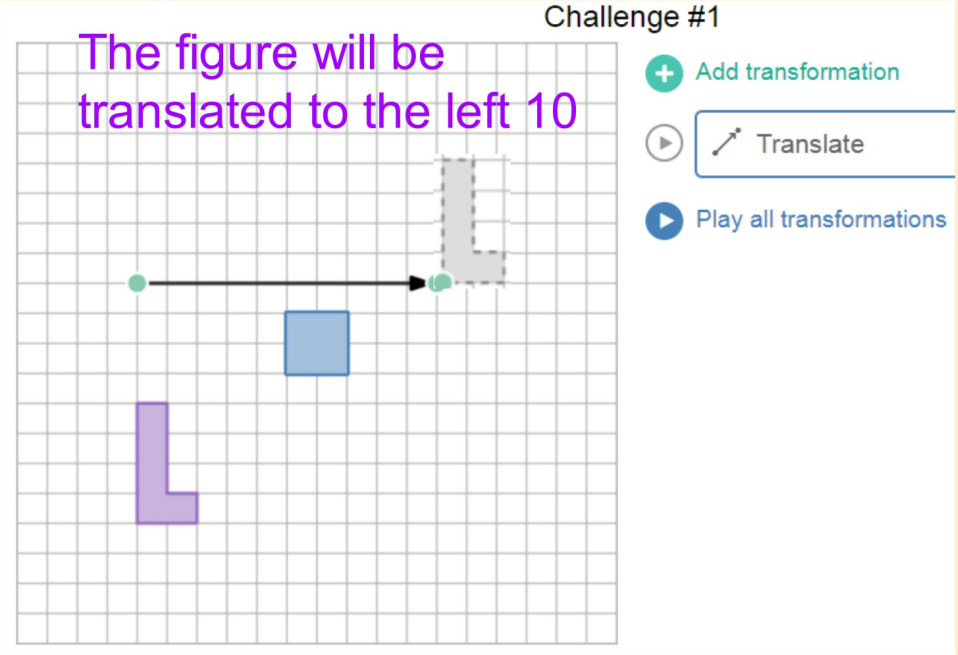
For each challenge, your task is the same: Use one or more of those transformations to transform the pre-image onto the image.



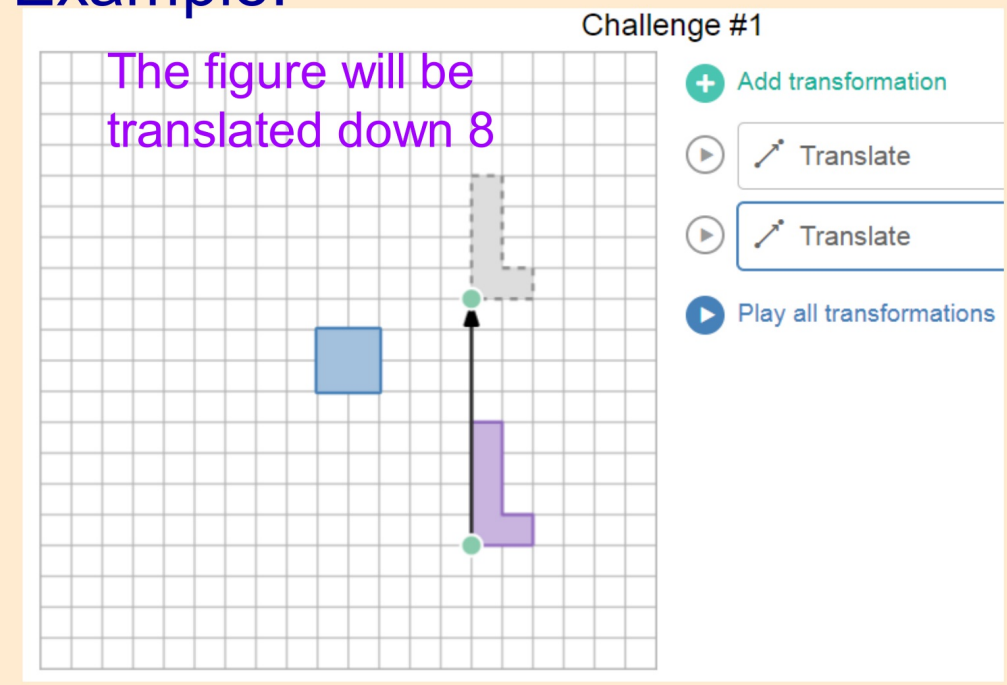
GOAL: Get the dotted on the solid

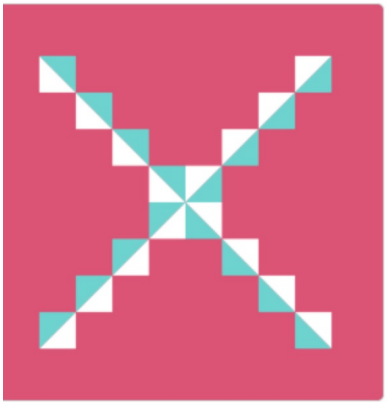


Example:


Challenge #1
The figure will be translated to the left 10
Add transformation
Translate
Play all transformations

Example:


Challenge #1
The figure will be translated down 8
Add transformation
Translate
Translate
Play all transformations



Welcome to

Des-Patterns

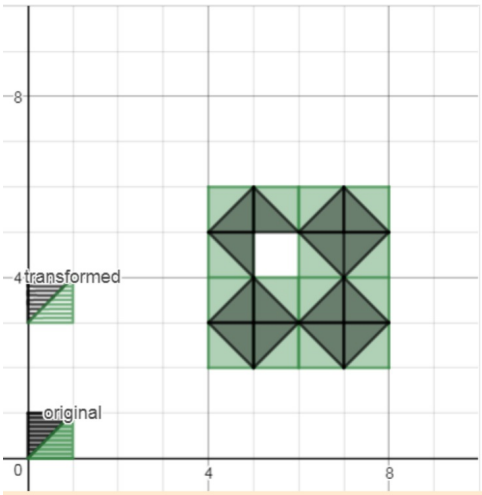
Continue the activity, Ima Example!

Not Ima Example? Sign out

G8SK3

Example:

Coordinate Rules



We can transform figures using coordinate rules.

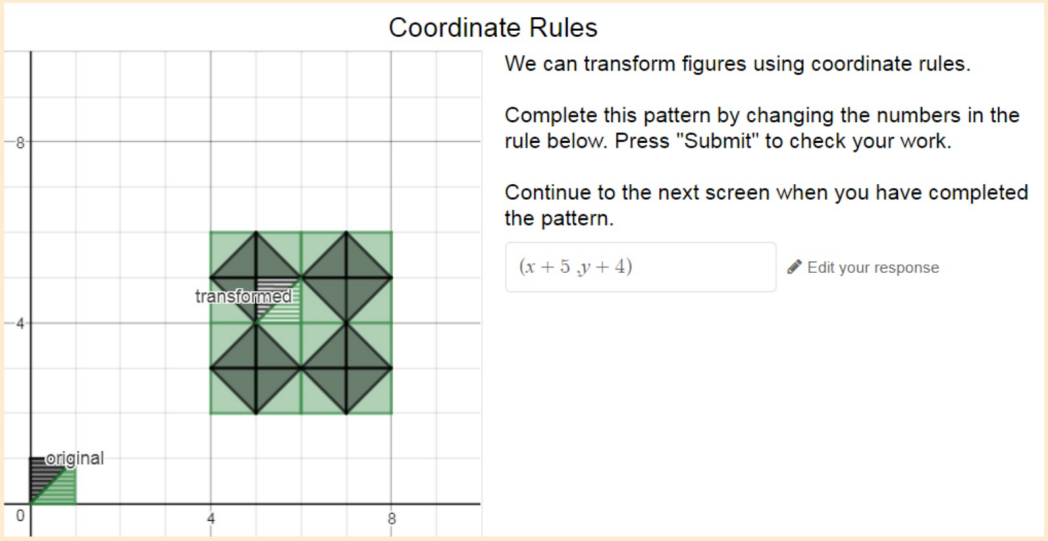
Complete this pattern by changing the numbers in the rule below. Press "Submit" to check your work.

Continue to the next screen when you have completed the pattern.

$(x, y + 3)$ Edit your response

$(x+5, y+4)$

Example:


Coordinate Rules
We can transform figures using coordinate rules.
Complete this pattern by changing the numbers in the rule below. Press "Submit" to check your work.
Continue to the next screen when you have completed the pattern.
$(x + 5\ ,y + 4)$
Edit your response
transformed
original
8
4
0
4
8

Exercises...

Finish Desmos Activity WS

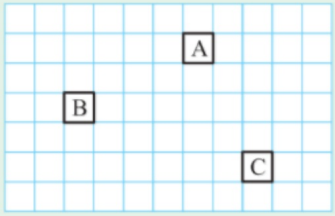
Exercises...

2 Figure A has been translated to B, then B has been translated to C.

a Give the translation vector from A to B.

b Give the translation vector from B to C.

c What translation vector would move A directly to C?

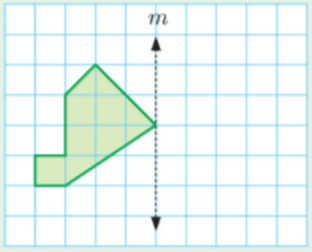


Exercises...

3 Complete the table below with the images of the given points under a reflection in the y-axis.

	P	P′
a	$(1, 5)$	
b	$(-2, 4)$	
c	$(-4, -3)$	
d	$(3, 2)$	

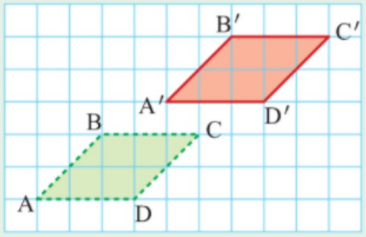
4 Copy the figure and reflect it in the mirror line shown.



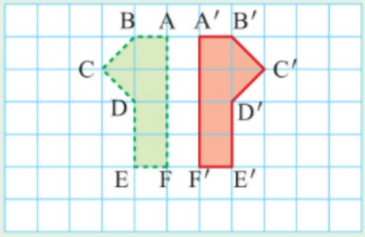
Exercises...

5 Describe the following transformations:

a



b



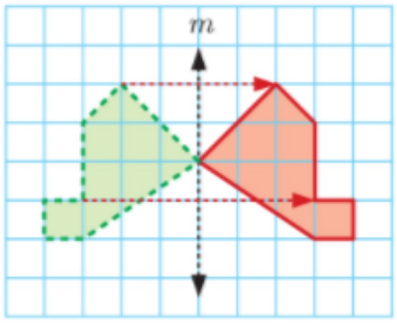
SOLUTIONS

2 **a** $\begin{pmatrix} -4 \\ -2 \end{pmatrix}$ **b** $\begin{pmatrix} 6 \\ -2 \end{pmatrix}$ **c** $\begin{pmatrix} 2 \\ -4 \end{pmatrix}$

3

	P	P'
a	$(1, 5)$	$(-1, 5)$
b	$(-2, 4)$	$(2, 4)$
c	$(-4, -3)$	$(4, -3)$
d	$(3, 2)$	$(-3, 2)$

4



5 **a** A translation of 4 units right and 3 units up.

b a reflection