

Concept: Transformations

Name: _____

PART A: COMPUTER COMPONENT

Instructions: In  follow the **Content Menu** path:

Graphing > Transformations



Work through all Sub Lessons of the following Lessons **in order**:

- *What is a Transformation?*
- *Introduction to Common Transformations*
- *Translations – An Introduction*
- *Reflections – An Introduction*
- *Rotations – An Introduction*
- *The Transformation Machine*
- *Lines of Symmetry*
- *Symmetry Match*
- *Tessellations*
- *Tangrams*

NOTE: You will not be finishing the entire section before stopping to complete some **OFF COMPUTER EXERCISES**.

Additional Required Materials: *Graph paper, scissors*



As you work through computer exercises, you will be prompted to make notes in your notebook/math journal.

When you reach the end of the lesson *Tangrams*, leave the computer and move on to **PART A: SUMMARY** below.

PART A: SUMMARY

1. *Fill in the spaces below with the correct 'transformation' term.*

A transformation occurs when the _____ or the _____ or the _____ of the original object changes.

We call the original figure the _____.

The figure resulting after the transformation has taken place is called the _____.

2. The Transformation Machine

Record your predictions of the transformations that would move the *blue object* to the *red image*.

Example

1 _____

Example

2 _____

Example

3 _____

Example

4 _____

Example

5 _____

3. Tessellations

Record your predictions of the transformations for the Tessellation.

Example 1

What transformations would move Red to Green?

Example 2

What transformations would move Red to Blue?

Example 3

What transformations would move Red to Orange?

Example 4

What transformations would move Red to Purple?

Example 5

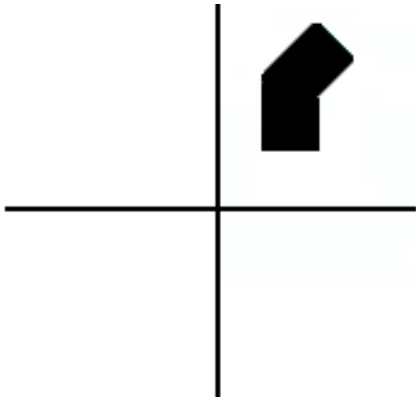
What transformations would move Red to Yellow?

OFF COMPUTER EXERCISES

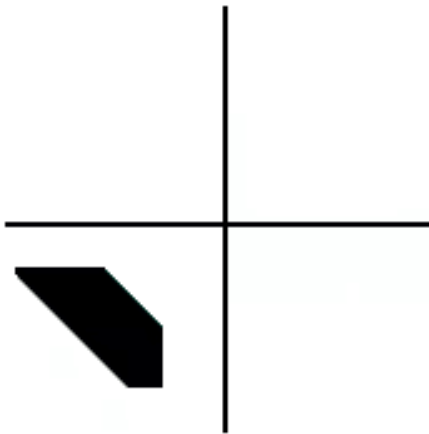
1. Draw a translated image of the object below.



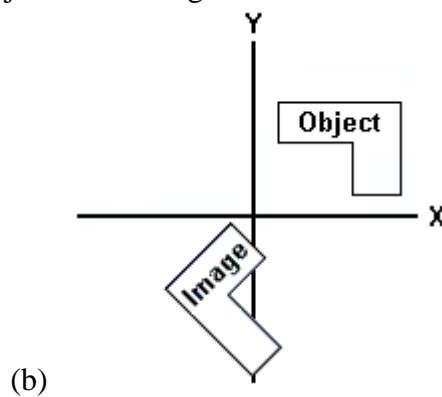
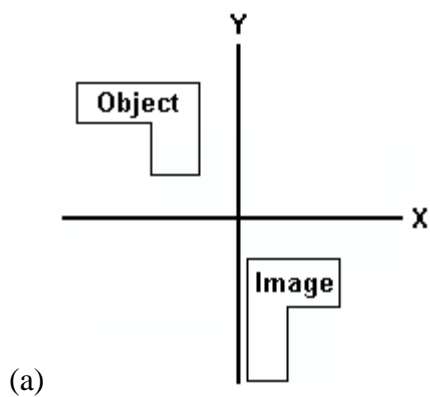
2. Draw a rotated image of the object below.



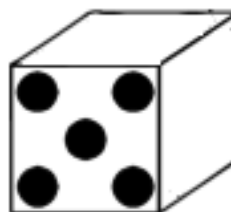
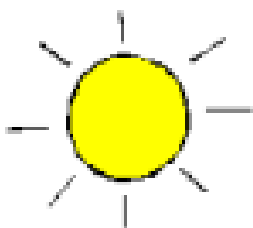
3. Draw a reflected image of the object below.



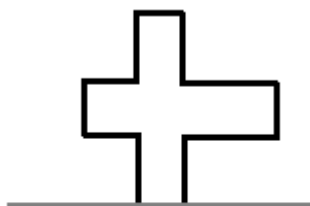
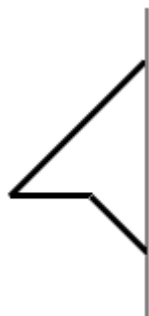
4. Record the transformations that have moved the object to the image.



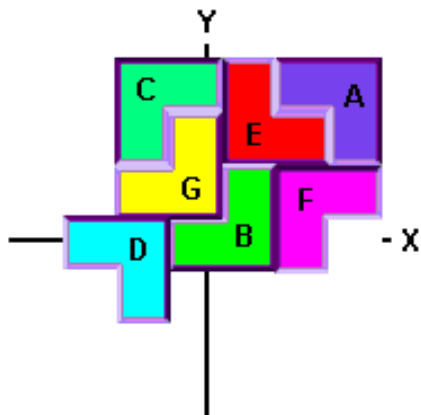
5. Draw the line of symmetry onto each object below.



6. Draw the other half of the images below, using the line of symmetry as a guide.



7. In the following tessellation, what transformations would move:



(a) F to D? _____

(b) C to A? _____

(c) G to E? _____

(d) B to F? _____

8. 'Tantalizing Tangrams'

Carefully cut the shapes out and begin to make *new* shapes with the pieces. Trace the outline of the shapes you made and give them to a friend. See if your friend can fit the blocks into the outline correctly.

