Flipped Lesson-Math 12/Math 105 (Int. Alg./College Alg.)

<u>Lesson</u>: Graphing Transformations and Translations

<u>Timeframe</u>: One week (individual space activities), one week (group space activities)

<u>Materials Needed</u>: computer with internet access, parent graph handout, graphing vocabulary, graphing paper, handout with transformed graphs

<u>Objectives</u>:
    Basic:
1. Students will identify parent graphs.
2. Students will graph parent graphs from function equation.
3. Students will define transformation vocabulary.
4. Students will identify transformations using proper terminology given a transformed graph.

    Advanced:
1. Students will graph given functions with 1 and 2 transformations.
2. Students will graph a function given in word form.
3. Given a transformed parent graph, students will write the corresponding function equation.

<u>Background</u>: Students should have a basic knowledge of graphing as well as what parent graphs are.

<u>Individual Space Activities</u>:
1. Students will read the lesson on graphing transformations in the book.
2. Students will take an online quiz on parent graphs and vocabulary terms used with graphing transformations and translations.
3. Students will identify which transformations are shown given a handout of graphs showing 1 and 2 transformations of parent graphs.
4. Students will draw (by hand or computer) a scene (nature, comic book, etc.) embedding all 8 parent graphs on an 8.5"x11" sheet of paper.

<u>Group Space Activities</u>:
1. Students will swap pictures with a partner and identify the embedded parent graphs.
2. Students will graph (without t-chart plotting) functions with 1, then 2, then 3 transformations given the function form.
3. Same as Step 2, except given functions in word form.
4. Working in groups of 4, 2 students will work together graphing a transformed function using GeoGebra and the other 2 students will work together to write the corresponding function. They will take turns.
5. Same as Step 4, except 2 students give the transformation in word form to the other 2 students to graph using GeoGebra. Then take turns.

<div align="right">D. Korneff</div>