Flip, Slide, Turn

**Algebra**

**Unit 4 Line Master 4a**

1. Open the exploration for .

1. Look at where *c* is in the equation.   
   Predict how the graph will change when the value of *c* is changed.
2. Use the slider to change the value of *c*.   
   How is the graph of being transformed?

1. How are the graph of and the new graph alike?   
   How are they different?   
   Reference the slopes and *y*-intercepts of the graphs.
2. The graph *y* = 5*x* is translated down 6 units.   
   Predict the equation of the resulting graph. Check your prediction.
3. The graph of is transformed to the graph of .   
   Describe the transformation that was applied.

Flip, Slide, Turn (cont’d)

**Algebra**

**Unit 4 Line Master 4b**

2.Open the exploration for .

1. Look at where *c* is in the equation.   
   Predict how the graph will change when the value of *c* is changed.
2. Use the slider to change the value of *c*.   
   How is the graph of being transformed?
3. How are the graph of and the new graph alike?   
   How are they different?   
   Reference the slopes and *y*-intercepts of the graphs.
4. Does the value of *c,* alone, tell you the location of the new *y*-intercept?   
   Why or why not?
5. The graph *y* = 5*x* is translated left 6 units.   
   Predict the equation of the resulting graph. Check your prediction.
6. The graph of is transformed to the graph of .   
   Describe the transformation that could have been applied.

Flip, Slide, Turn (cont’d)

**Algebra**

**Unit 4 Line Master 4c**

3.Open the exploration for .

1. What is the relationship between the lines? Do you think this relationship will change or stay the same as the value of *a* is changed?
2. Use the slider to change the value of *a*.   
   How is the graph of being transformed?
3. How are the graph of and the new graph alike?   
   How are they different?   
   Reference the slopes and *y*-intercepts of the graphs.
4. The graph *y* = 10*x* is reflected in the *y-*axis.   
   Predict the equation of the resulting graph. Check your prediction.
5. The graph of is transformed to the graph of .   
   Describe the transformation that could have been applied.

Flip, Slide, Turn (cont’d)

**Algebra**

**Unit 4 Line Master 4d**

4.Open the exploration for .

1. What is the relationship between the lines? Do you think this relationship will change or stay the same as the value of *a* is changed?
2. Use the slider to change the value of *a*.   
   How is the graph of being transformed?
3. How are the graph of and the new graph alike?   
   How are they different?   
   Reference the slopes and *y*-intercepts of the graphs.
4. Change the equations to and .   
   Then move the slider to change the value of *a.*Is the graph still transformed in the same way?
5. The graph *y* = *x* is rotated 90° clockwise about the origin.   
   Predict the equation of the resulting graph. Check your prediction.
6. The graph of is transformed to the graph of   
   Describe the transformation that could have been applied.