Flip, Slide, Turn

**Algebra**

**Unit 4 Line Master 4a**

1. Open the exploration for $y=3x+c$.

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 $y=3x$being transformed?

1. How are the graph of $y=3x$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 $y=-7x $ is transformed to the graph of $y=-7x-3$.
Describe the transformation that was applied.

 Flip, Slide, Turn (cont’d)

**Algebra**

**Unit 4 Line Master 4b**

2.Open the exploration for $y=3(x-c)$.

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 $y=3x$being transformed?
3. How are the graph of $y=3x$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 $y=-2x $ is transformed to the graph of $y=-2(x-4)$.
Describe the transformation that could have been applied.

 Flip, Slide, Turn (cont’d)

**Algebra**

**Unit 4 Line Master 4c**

3.Open the exploration for $y=-ax$.

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 $y=ax$being transformed?
3. How are the graph of $y=ax$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 $y=2x+3 $ is transformed to the graph of $y=-2x+3$.
Describe the transformation that could have been applied.

 Flip, Slide, Turn (cont’d)

**Algebra**

**Unit 4 Line Master 4d**

4.Open the exploration for $y=-\frac{1}{a}x$.

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 $y=ax$being transformed?
3. How are the graph of $y=ax$and the new graph alike?
How are they different?
Reference the slopes and *y*-intercepts of the graphs.
4. Change the equations to $y=ax+2$ and $y=-\frac{1}{a}x+2$.
Then move the slider to change the value of *a.*Is the graph still transformed in the same way?
5. The graph *y* = $-5$*x* is rotated 90° clockwise about the origin.
Predict the equation of the resulting graph. Check your prediction.
6. The graph of $y=6x$ is transformed to the graph of $y=-\frac{1}{6}x.$
Describe the transformation that could have been applied.