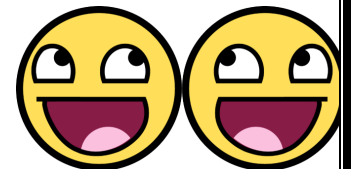
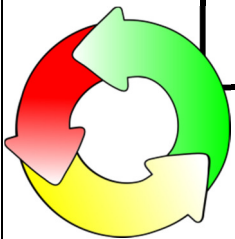
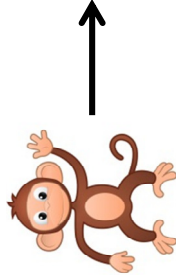
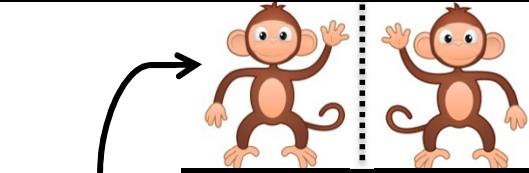


# Transformations Summary

**E**

**E**

Transformation	Symbol	Results	
		Verbal	Mathematical
<b>Translation</b>	a, b		
<b>Reflection</b>	x-axis		
	y-axis		
	y=x		
	y=-x		
<b>Rotation</b>	90		
	180		
	270 or -90		



# Transformations Summary **ANSWER KEY**

**E**

**E**

Transformation	Symbol	Results	
		Verbal	Mathematical
<b>Translation</b> <b>SLIDE</b>	a, b	$T_{a,b}$ T 2,3	Add a to x Add b to y $(x,y) \rightarrow (x+a, x+b)$ (4,-4)
<b>Reflection</b> <b>Flip</b>	x-axis	$r_{x-axis}$	Negate y $(x,y) \rightarrow (x, -y)$
	y-axis	$r_{y-axis}$	Negate x $(x,y) \rightarrow (-x,y)$
	y=x	$r_{y=x}$	Switch x & y $(x,y) \rightarrow (y, x)$
	y=-x	$r_{y=-x}$	Switch and Negate x & y $(x,y) \rightarrow (-y, -x)$
<b>Rotation</b> <b>Turn</b>	90	$R_{90}$	Switch x & y and negate the new 1 <sup>st</sup> $(x,y) \rightarrow (-y, x)$
	180	$R_{180}$	Negate x & y $(x,y) \rightarrow (-x, -y)$
	270 or -90	$R_{270}$ $R_{-90}$	Switch x & y and negate the new 2 <sup>nd</sup> $(x,y) \rightarrow (y, -x)$

