

TASK 1: How many symmetries can the equilateral triangle have? Justify that there can be no more.

TASK 2: What happens if you combine two of the triangle symmetries? Is this combination a brand new symmetry or is it equivalent to one you have already described? JUSTIFY!

GROUP CONSENSUS:

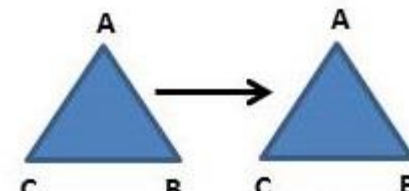
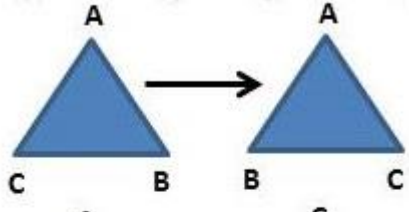
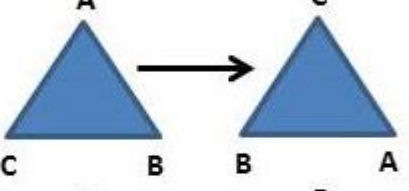
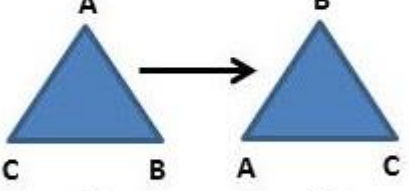
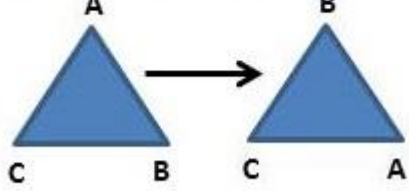
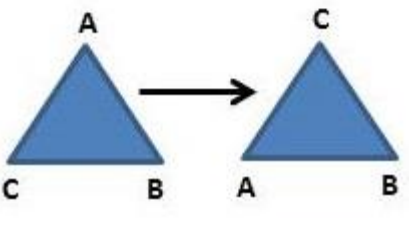
Symbols representing the distinct symmetries of an equilateral triangle.

SYMBOL

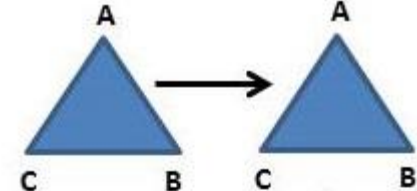
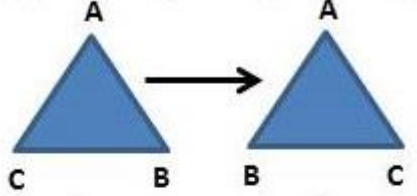
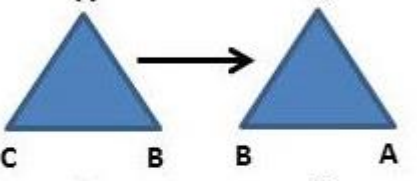
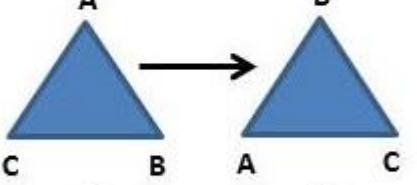
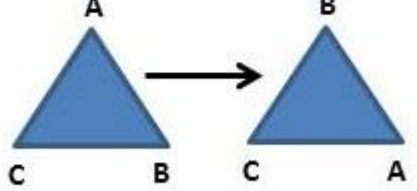
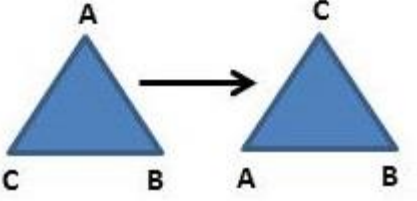
WHAT THE SYMBOL REPRESENTS

TASK 3: Which of your symbols represents a flip around the vertical axis? Which of your symbols represents a clockwise rotation of 120° ?

TASK 4: For each distinct symmetry of the triangle, find a combination of flips about the vertical axis and clockwise rotations of 120° that is equivalent. Fill in the following table. Try coming up with more than one combination for each symmetry.

SYMMETRY	EQUIVALENT COMBINATIONS
	
	
	
	
	
	

TASK 5: Now, let's use your tables to select a set of symbols that we can all use. Once we have reached an agreement, fill in the table below so you can have a record of our official symbols. We will use these all semester.

SYMMETRY	OFFICIAL SYMBOL
	
	
	
	
	
	

TASK 6: Eariler, we decided that each combination of triangle symmetries has to be equivalent to one of the six symmetries listed in the previous table. For each combination of two triangle symmetries, decide which one of our six it is equivalent to.