

Color the Corners

Starting with 4 colors, say red, white, blue and green, how many ways can the corners (vertices) of an equilateral triangle be colored? Note a vertex is dimensionless so that it can't actually be "colored." It is more proper to say we are assigning colors to the vertices. Assume you can look at the triangle from front or back so that some back views are equivalent to some front views, and visa versa. Similarly assume rotated views are equivalent. We say, in other words, that reflections and rotations are allowed. Show all work in solving this problem.