25

The problem we were looking to solve was finding all the positions in which we can keep our bodies, and switch from rotational and reflectional symmetry. We first stood facing each other as partners and tried different positions. We knew that if we had our arms crossed over our bodies, it was different for each symmetry. For rotational symmetry the same arm (ex. Left for both of us) would go over the other arm. For reflectional symmetry, the opposite arm (ex. Right for one person would be equivalent to the left for the other) would be the one on top. This same logic applied to having our legs crossed. Then when we tried having our arms out to our sides, or up above our heads, it would work for both forms of symmetry. The rule that we discovered applied for this problem, was the need for symmetry down the middle of our body. Once we crossed that line, and there was no longer any symmetry, then we couldn't switch from rotational and reflectional symmetry.

you found correctly a "rule" for positions in which you can surtety. Now explain why this rule always works and why three can't be another "rule".