1. Determine which pairs of symmetries generate the entire set of symmetries of the equilateral triangle, i.e. $\{R_0, R_{120}, R_{240}, F_1, F_2, F_3\}$. Show how to generate each symmetry using just elements in the pair. Can this set be generated by a single symmetry?

   Solution: Your solution goes here...

2. Create a Cayley table for the symmetries of a square.
   Hints: This group has eight symmetries. There are four rotational symmetries and four flip symmetries. Two of the flips are with respect to axes through diagonal vertices and two flips are with respect to axes through opposite midpoints i.e. one horizontal axis and one vertical axis.

   Use similar notation as in the triangle case, let $r = R_{90}$ and let f be a flip through the vertical axis. In other words, your symmetries should be named only using the characters r and f with exponents only on r. Furthermore, any symmetry names with an f in them should have it at the end.

   Cut out and label a paper square to help you.

   Solution: Your answer here...