

6. The Cayley diagram for A_4 shown above labels the elements with letters instead of permutations:

$$A_4 = \{e, a, a^2, b, b^2, c, c^2, d, d^2, x, y, z\}.$$

Redraw this Cayley diagram but label the nodes with the 12 even permutations from the previous problem. That is, you need to determine which permutation corresponds to a , which to b , and so on. [*Hint*: There are many possible ways to do this. If you let a be one of the permutations of order 3, and let x be one of the permutations of order 2, then you should be able to determine the remaining elements.]