Problem of the Week

Problem B

I Say My Name

An onomatopoeic chickadee flies from one of three different trees to one of two feeders, and then flies back to one of the trees.

a) Make a 'tree' diagram to show all possible routes the chickadee might take. How many routes are there in total?

b) Look at the number of possible choices of trees the chickadee might leave, the number of possible choices of feeders on which it could land, and then the number of possible choices of trees to which it could return. With what arithmetic operation (e.g., addition, multiplication, etc.) could you combine these three numbers in order to obtain the total number of routes found in part a)?

c) After dining at one of the feeders, the chickadee decides to stop at either a birdbath, or on your hand for some seeds before returning to the trees. Use your result from b) to determine the new number of total possible routes.