Meeting 13, S07
Exercise 2: Logic puzzles

a. At a family reunion were the following people: one grandfather, one grandmother, two fathers, two mothers, four children, three grandchildren, one brother, two sisters, two sons, two daughters, one father-in-law, one mother-in-law, and one daughter-in-law. But not as many people attended as it sounds. How many were there, and who were they?

b. A man is the owner of a winery who recently passed away. In his will, he left 21 barrels (seven of which are filled with wine, seven of which are half full, and seven of which are empty) to his three sons. However, the wine and barrels must be split so that each son has the same number of full barrels, the same number of half-full barrels, and the same number of empty barrels. Note that there are no measuring devices handy. How can the barrels and wine be evenly divided?

c. You have three boxes of fruit. One contains just apples, one contains just oranges, and one contains a mixture of both. Each box is labeled -- one says "apples," one says "oranges," and one says "apples and oranges." However, it is known that none of the boxes are labeled correctly. How can you label the boxes correctly if you are only allowed to take and look at just one piece of fruit from just one of the boxes?