More Broken Eggs

In *POW 1: The Broken Eggs,* you found a possible number of eggs the farmer might have had when her cart was knocked over.

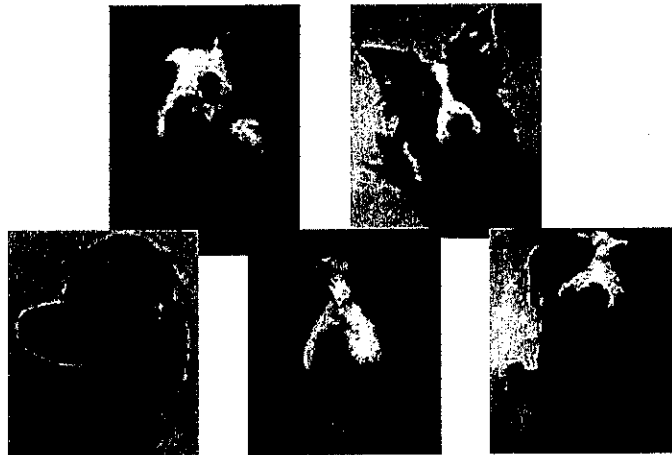You may have found only one solution to that problem, but there are actually many solutions.

Your task now is to look for other solutions to the problem. Find as many as you can. If possible, find and describe a pattern for getting all the solutions. Also explain why all the solutions fit that pattern.

Here are the facts you need to know.

- When the farmer put the eggs in groups of two, there was one egg left over.
- When she put them in groups of three, there was also one egg left over. The same thing happened when she put them in groups of four, five, or six.
- When she put the eggs in groups of seven, she ended up with complete groups of seven, with no eggs left over.

Whose Dog Is That?

Abigail, Beth, Celia, Dayna, and Eudora bring their dogs to the Little Red Schoolhouse for Dogs. During the morning break, they find that each of their pets has the same name as the husband of one of the other women.

In particular, they notice these facts.

- Abigail's dog is named George.
- Celia's dog is named Jerry.
- Eudora's dog is named Ike.
- Dayna's dog is named Frank.
- Abigail's husband is also named Frank.
- Beth's husband has the same name as George's wife's dog.
- Horace and his wife, Celia, have the best-behaved dog.

Your job is to figure out the names of each woman's husband and each woman's dog.

In addition, you must explain clearly how you found your answer. If you think there is more than one possibility, give all solutions, and explain why there are no more. If you think there is only one solution, explain why there are no others.

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