Table Number:_____ Group Name: _____

Group Members:_____ _____ _____

Random Babies – Three Moms

Let's return to the random baby problem, but this time, let's assume that only 3 babies were born that night. List all the sample space (all possible outcomes) for a *single trial.* Here's a suggestion: Suppose the mothers' names were SMITH, JONES, WILLIAMS. You might number the babies 1 (Sam Smith), 2 (Joe Jones), 3 (Willy Williams). Assume that Mrs. Smith is in BED 1, Mrs. Jones is in BED 2, and Mrs. Williams is in BED 3.

Bed 1 (Smith)	Bed 2 (Jones)	Bed 3 (Williams)

Thus if all babies went to the right mother, we might list them as 1 (baby 1 to Bed 1); 2(baby 2 to bed two); or 3 (baby 3 to bed 3), or simply 1 2 3. This is an outcome with 3 matches. Another outcome might be: 3 2 1. (Baby 3 to bed 1, baby 2 to bed 2, baby 1 to bed 3.) This outcome has 1 match.

a. Interpret this outcome in words: 2 3 1

b. How many matches does it have?

c. List the entire sample space below (including the outcomes mentioned above).

(Hint: there are a total of 6 outcomes).

d. What is the probability that all babies are given to the right mother?

e. What is the probability that at least one baby is given to the correct mother?

f. What is the probability that no babies are given to the correct mother?

g. Is it possible for exactly two babies to be given to the correct mother?