Basketball Simulation Worksheet

Joe is a pretty good free-throw shooter. In fact, he typically misses only 1 shot out of six. During most basketball games, Joe shoots four foul shots. What is the probability (assume all shots are independent and not influenced by other "game" factors) that Joe will make all four foul shots in a game?

1. Categorize data
   A roll of "1"=_____
   A roll of "2,3,4,5,or 6"=_____

2. Each group member should run five simulations.
   Joe shoots four foul shots in a game. Simulate his performance by rolling a die four times for each of five games. Record data below.

Free throws (dice rolls)	# "baskets" made	Success? (all four baskets made?) Yes or No
Ex. 3 5 2 1	3	N
Game 1		
Game 2		
Game 3		
Game 4		
Game 5		
Game 1		
Game 2		
Game 3		
Game 4		
Game 5		

3. Calculate your experimental probability of making all four baskets.
   Experimental probability is expressed as p^ and read "p hat".

P^= # successes (all baskets made)
Total 3 outcomes (number of games)

P^ (1st group member)= p^(2nd group member)=