## BLM 4 - Theoretical Probability

Fill out the table on the right with all the possible results from four sticks. The first three results have been done for you. Every line must be filled in.

Note: Make your work easier by using a pattern. Some mathematicians use a "Tree Diagram" to make sure all the possibilities are found. If time allows, work on a separate sheet and draw the tree.

Find the frequency of the combinations:
All 4 up:
3 up and 1 down:
$\qquad$

2 up and 2 down:
$\qquad$
$\qquad$
1 up and 3 down: $\qquad$
All 4 down: $\qquad$
Now find the theoretical probability of each combination:

All 4 up: $\qquad$
3 up and 1 down: $\qquad$
2 up and 2 down: $\qquad$
1 up and 3 down: $\qquad$
All 4 down: $\qquad$

|  | Stick \#1 | Stick \#2 | Stick \#3 | Stick \#4 |
| :--- | :--- | :--- | :--- | :--- |
|  | Up | Up | Up | Up |
|  | Down | Up | Up | Up |
|  | U | D | U | U |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

