Honors Biology Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
NDHS Per: \_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_

**Probability and Genetics**

Flipping Coins

Heads vs. Tails

Probability of Getting Heads =

Probability of Getting Tails =

Corresponds to Sorting of Gametes

Tt = 50% of getting T and 50% of getting t

Calculating Multiple Probabilities

* **Rule of Multiplication**:

 Ex: Tt x Tt

The probability of getting TT

Probability of T =
Probability of T =

Total Probability =

* Probability of tt =
	+ - ½ x ½ =
* Probability of Tt
	+ -
		- WHY?

|  |  |
| --- | --- |
|  |  |
|  |  |

**Rule of Addition:**

* Cross: TT x tt
	+ Probability of Tt:
* Cross: Tt x tt
	+ Probability of Tt
	+ Probability of tt
	+ Probability of TT

**Multiple Genes: Dihybrid and beyond**

* Find the individual probability of each gene pair and multiply all together.
* Cross: AaBb X AABb
	+ Probability ofAaBB:
		- Probability of Aa =
		- Probability of BB =
		- Total Probability of AaBB= ½ x ¼ =

Cross AaBb x AaBb

* + Probability of AaBb
		- Probability of Aa =
		- Probability of Bb =
		- Probability of AaBb =
* Probability of AABB
* Probability of Aabb
* Cross AaBBCc x AABbCc
	+ Probability of AABBCC
	+ Probability of AaBbCc
	+ Probability of AAbbCC