**Genetics Worksheet # 1** name:_____

Definitions:

**Gamete**: sperm or eggs. In this context, when asked for gametes, you are showing the gene being carried by the gamete.

**Genotype**: the genes that an organism carries for a particular trait. Shown with two of the same letters (such as Tt). Can be homozygous or heterozygous.

**Homozygous:** both genes for a trait are the same. To be specific, we say the genotype is either homozygous dominant (TT) or homozygous recessive (tt).

**Heterozygous**: the genotype includes one dominant gene and one recessive gene (Tt) (a heterozygous individual is also known as a carrier).

**Phenotype:** the trait expressed in the individual. In simple genetics, the dominant trait is expressed if one or two copies of the dominant gene is present, while the recessive trait is expressed only when two recessive genes are present.

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**Please note:**

- Please show all of your work.
- Use letters to indicate the genes.
- Choose letters that have a clear difference between the capital and the small versions.

Blood type inheritance is somewhat complicated, with three forms of the gene and 4 possible phenotypes. Refer to class notes for more information.

1. Suppose that a woman with blood type AB marries a man with type o. What are the chances that their children will have blood type A? How about the other types?

2. Suppose now that a man with blood type B marries a woman with blood type A. What will the blood type of their first child likely be? Show how you know.