

## Multiple alleles practice problems:

Phenotype	Genotype
A	AA, AO
B	BB, BO
AB	AB
O	OO

Blood type is controlled by 3 alleles A,B,O

A and B are codominant

O is recessive

Identify the correct genotype:

Homozygous A

Heterozygous A

Homozygous B

Heterozygous B

O

AB

1. A man with heterozygous B blood is married to a woman with AB blood. Show a cross.

What percentage of children will have

A blood      %      B blood      %      AB blood      %      O blood      %


2. A man with homozygous B blood is married to a woman with type O blood. Show a cross.
  - a. What type of blood will their children have?
  - b. What is the genotype of the children?


3. A woman with heterozygous type A blood is married to man with heterozygous type B blood. Show a cross.

What percentage of children will have

A blood      %      B blood      %      AB blood      %      O blood      %


4. A woman with type A blood is claiming that a man with type AB blood is the father of her child with type B. Complete the crosses on a separate piece of paper to answer the following questions.
- Could this man be the father of the child?
  - If he is the father, what would the mother's genotype be?
5. A man with type AB blood is married to a woman with type O blood. They have two natural children and one adopted child. Jane has type A, Bobby has type B, and Grace has type O.
- Which child is adopted?
