



A
B
O
AB

Monohybrid Cross Worksheet 4: Multiple Alleles

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Name

Date

Introduction

1. Human blood types are determined by three different alleles known as I^A , I^B , and i , of which encode for type A, type B, and type O, respectively. A summary of blood type phenotypes and corresponding genotypes are denoted in Table 1 below.

Phenotype	Genotype(s)
Type A	$I^A I^A$ or $I^A i$
Type B	$I^B I^B$ or $I^B i$
Type AB	$I^A I^B$
Type O	ii

a. Determine if the following are examples of complete dominance, incomplete dominance, or codominance:

- Type AB: _____.
- Homozygous type A: _____.
- Type O: _____.
- Heterozygous type B: _____.
- Heterozygous type A: _____.

Monohybrid cross problems

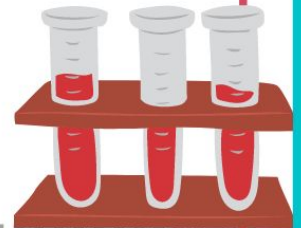
2. If a mother and father with heterozygous type B and homozygous type A blood types, respectively, have children, fill out the monohybrid cross and determine the following:

	I^A	I^A
I^B		
i		

- What are the genotypes of the parents? _____
- What are the possible F1 phenotypes? _____

3. Determine the following probabilities of F1 having:

- Type O blood: _____
- Type AB blood: _____
- Type B blood: _____
- Type A blood: _____



2. If a mother and father with type O and type AB blood types, respectively, have children, fill out the monohybrid cross and determine the following:

- P1 genotypes: _____
- F1 genotypes: _____
- F1 phenotypes: _____
- Probability of F1 having type O blood: _____
- Probability of F1 having type AB blood: _____
- Probability of F1 having type B homozygous blood: _____
- Probability of F1 having type A heterozygous blood: _____
- Probability of F1 having type B heterozygous blood: _____
- Probability of F1 having type A homozygous blood: _____

	I^A	I^B
i		
i		