PS: 2-Trait Intro WS

Directions: Determine all the possible **genotype** and **phenotype** fractions for the following two crosses in horses. Black coat color is dominant over chestnut and trotting gait is dominant over pacing gait.

1. A horse that is heterozygous for black coat color and trotting gait is mated with a horse with a chestnut coat color and pacing gait.

Gene notation	___ = _____ ___ = _____
Symbols used	___ = _____ ___ = _____
Parent Genotypes	MOM = _____ DAD = _____
Mom's egg varieties: _____ Dad's sperm varieties: _____	

Genotypes

Phenotypes

2. A heterozygous black horse with a pacing gait is mated with a chestnut horse with a heterozygous trotting gait.

Gene notation	___ = _____ ___ = _____
Symbols used	___ = _____ ___ = _____
Parent Genotypes	MOM = _____ DAD = _____
Mom's egg varieties: _____ Dad's sperm varieties: _____	

Genotypes

Phenotypes

Directions: Answer the following questions below that pertain to 2-Trait crosses in humans after completing the Punnett Squares. Right-handedness is dominant to left-handedness and normal skin pigmentation is dominant over the albino skin condition.

3. If a left-handed woman who is heterozygous for normal skin pigmentation has a child with a man who is homozygous right–handed and albino, what is the probability that the child will be a right-handed albino? ☐

Gene notation	___ = _____ ___ = _____
Symbols used	___ = _____ ___ = _____
Parent Genotypes	MOM = _____ DAD = _____
Mom's egg varieties: _____ Dad's sperm varieties: _____	

4. Sheila is right-handed and albino (and her mother is left-handed). Doug is left-handed and has normal skin pigmentation, but both of his maternal grandparents are albino. What is the probability of Sheila and Doug having a right-handed child with normal skin pigmentation? ☐

Gene notation	___ = _____ ___ = _____
Symbols used	___ = _____ ___ = _____
Parent Genotypes	MOM = _____ DAD = _____
Mom's egg varieties: _____ Dad's sperm varieties: _____	
