

Name _____

Period: _____

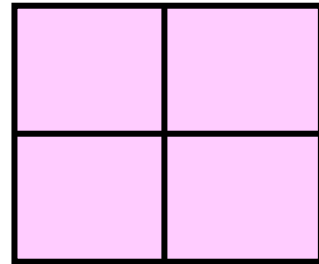
Date: _____

CODOMINANT/INCOMPLETE DOMINANCE PRACTICE WORKSHEET

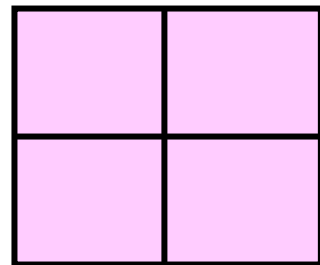
1. Explain the difference between incomplete and codominance.

Co-Dominance Problems

2. In a certain fish, blue scales (B) and red scales (R) are codominant. When a fish has the hybrid genotype, it has a patchwork of blue and red scales.
 - a. What is the genotype for blue fish? _____
 - b. What is the genotype for red fish? _____
 - c. What is the genotype for patchwork fish? _____
3. What happens if you breed a patchwork fish with a fish that only has Blue Scales?
 - a. What is the probability of having fish with red scales? _____%
 - b. What is the probability of having fish with patchwork scales? _____%



4. Two patchwork fish are crossed. What is the probability that they will have patchwork fish?
_____%



Codominance (Blood types)

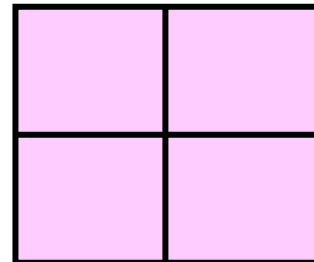
Human blood types are determined by genes that follow the CODOMINANCE pattern of inheritance. There are two dominant alleles (I^A and I^B) and one recessive allele (i).

Blood Type (Phenotype)	Genotype	Can donate blood to:	Can receive blood from:
O	ii	A,B,AB and O (universal donor)	O
AB	$I^A I^B$	AB	A,B,AB and O (universal receiver)
A	$I^A I^A$ or $I^A i$	AB, A	O,A
B	$I^B I^B$ or $I^B i$	AB,B	O,B

1. Write the genotype for each person based on the description:

- a. Homozygous for the "B" allele _____
- b. Heterozygous for the "A" allele _____
- c. Type O _____
- d. Type "A" and had a type "O" parent _____
- e. Type "AB" _____
- f. Blood can be donated to anybody _____
- g. Can only get blood from a type "O" donor _____

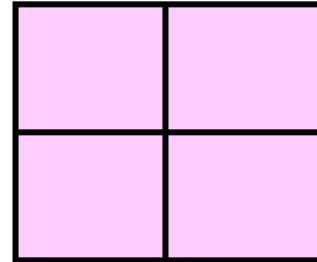
2. Pretend that Drake is homozygous for the type B allele, and Nicki Minaj is type "O." **What are all the possible blood types of their baby?** (show your work)



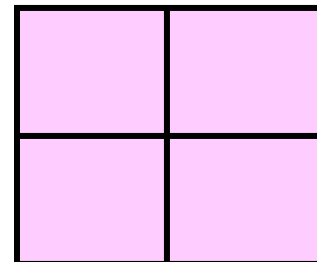
3. Draw a Punnett square showing all the possible blood types for the offspring produced by a type "O" mother and an a Type "AB" father



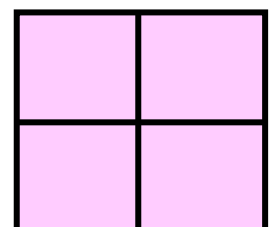
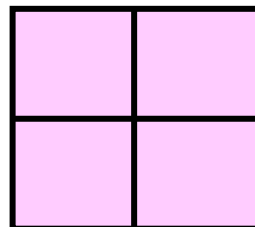
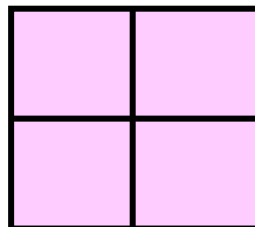
4. Mrs. Clink is type "A" and Mr. Clink is type "O." They have three children named Matthew, Mark, and Luke. Mark is type "O," Matthew is type "A," and Luke is type "AB." Based on this information: SHOW WORK TO PROVE YOUR ANSWERS!
- Mr. Clink must have the genotype _____
 - Mrs. Clink must have the genotype _____ because _____ has blood type _____
 - Luke cannot be the child of these parents because neither parent has the allele _____.



5. Two parents think their baby was switched at the hospital. Its 1968, so DNA fingerprinting technology does not exist yet. The mother has blood type "O," the father has blood type "AB," and the baby has blood type "B."
- Mother's genotype: _____
 - Father's genotype: _____
 - Baby's genotype: _____ or _____
 - Punnett square showing all possible genotypes for children produced by this couple
 - Was the baby switched?

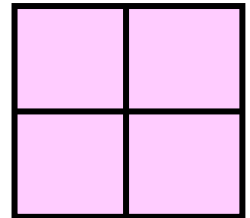
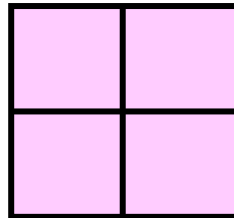
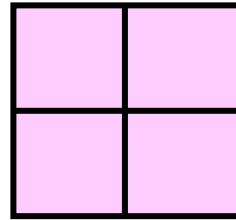
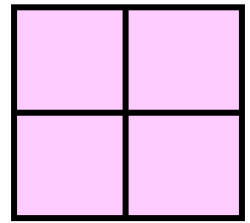
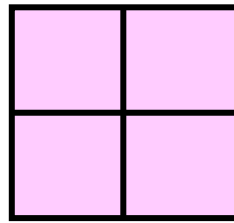
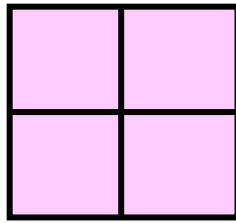


6. Two other parents think their baby was switched at the hospital. The mother has blood type "A," the father has blood type "B," and the baby has blood type "AB."
- Mother's genotype: _____ or _____
 - Father's genotype: _____ or _____
 - Baby's genotype: _____
 - Punnett squares (there should be 4) that shows the baby's genotype as a possibility:
 - Was the baby switched?



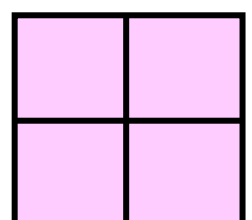
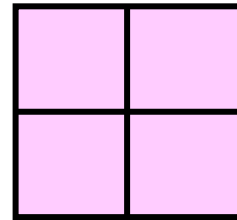
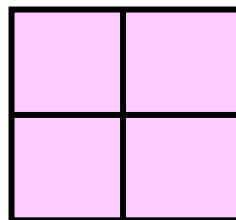
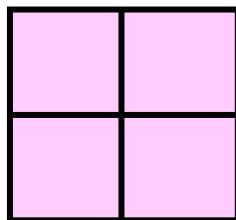
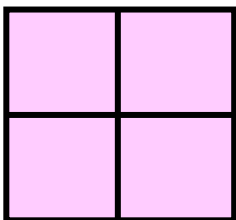
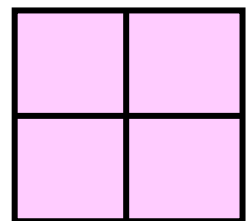
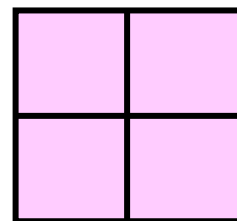
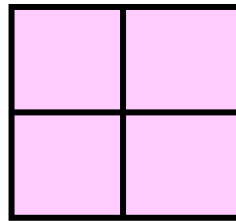
7. Based on the information in this table, which man **could not** be the father of the baby? Justify your answer with a Punnett square. (You will need to create multiple Punnett Squares)

Name	Blood Type
Mother	Type A
Baby	Type B
Male A	Type O
Male B	Type AB
Male C	Type A
Male D	Type B



8. Based on the information in this table, which man **could not** be the father of the baby? Justify your answer with a Punnett square.

Name	Blood Type
Mother	Type O
Baby	Type AB
Male A	Type O
Male B	Type AB
Male C	Type A
Male D	Type B



9. Explain why blood type data cannot prove who the father of a baby is, and can only prove who the father is not.