Genetics Practice Problem Sites

http://www.biology.arizona.edu/human_bio/problem_sets/human_genetics/human_genetics.html
http://www.biology.arizona.edu/mendelian_genetics/mendelian_genetics.html
http://biology.clc.uc.edu/courses/bio105/geneprob.htm
http://www.execulink.com/~ekimmel/mendel1a.htm
http://www2.edc.org/weblabs/Mendel/mendelInstructions.html
http://learn.genetics.utah.edu/units/basics/tour/
http://www.athro.com/evo/gen/punexam.html
http://biologica.concord.org/webtest1/web_labs_mendels_peas.htm
http://users.adelphia.net/~lupold/biologybinder/genetics%20problems/genetics_ABO.htm

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Heredity Quiz

- Be able to determine the probability of getting a number by rolling a pair of dice.
- Be able to work monohybrid crosses for complete and incomplete dominance and show genotypes, phenotypes, and ratios.
- Be able to work dihybrid crosses and determine genotypes, phenotypes, and ratios.
- Be able to explain and give examples of codominance, polygenic inheritance, sex-linked inheritance….
- Be able to work genetics problems in which carriers of alleles are involved.
- Be able to work a problem on sex-linked trait (ex. Color blindness)
- Be able to list and explain Mendel's laws of heredity and relate them to meiosis
- Be able to discuss Morgan, Sutton, and Sturtevant's contributions to the understanding of chromosomal inheritance.
- Be able to define linkage and explain how it interferes with independent assortment.
- Be able to predict the probability of a genotype occurring for a cross involving 4 traits. (Rule of Multiplication)
- Be able to describe how a genetic defect is caused by nondisjunction

CHAPTER 14 & 15

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271-272	Incomplete Dominance Co-dominance
272	Multiple Alleles
274	Polygenic
275-278	Pedigree
286-292	Sex-linked
293-297	Linked Genes

Genetics Problems

1. A rooster with gray feathers is mated with a hen of the same phenotype. Among their offspring, 15 chicks are gray, 6 are black, and 8 are white.

- What is the simplest explanation for the inheritance of these colors in chickens?
- What offspring would you predict from the mating of a gray rooster and a black hen?

2. In some plants, a true-breeding, red-flowered strain gives all pink flowers when crossed with a white-flowered strain: RR (red) x rr (white) ---> Rr (pink). If flower position (axial or terminal) is inherited as it is in peas what will be the ratios of genotypes and phenotypes of the generation resulting from the following cross: axial-red (true-breeding) x terminal-white? What will be the ratios in the F_2 generation?

3. Flower position, stem length, and seed shape were three characters that Mendel studied. Each is controlled by an independently assorting gene and has dominant and recessive expression as follows:

Character	Dominant	Recessive
Flower position	Axial (A)	Terminal (a)
Stem length	Tall (T)	Dwarf (t)
Seed shape	Round (R)	Wrinkled (r)

If a plant that is heterozygous for all three characters were allowed to self-fertilize, what proportion of the offspring would be expected to be as follows: (Note - use the rules of probability (and show your work) instead of huge Punnett squares)

a. homozygous for the three dominant traits
b. homozygous for the three recessive traits
c. heterozygous (assume for all traits)
d. homozygous for axial and tall, heterozygous for seed shape

4. A black guinea pig crossed with an albino guinea pig produced 12 black offspring. When the albino was crossed with a second one, 7 blacks and 5 albinos were obtained.

black

- What is the best explanation for this genetic situation?
- Write genotypes for the parents, gametes, and offspring.

5. In sesame plants, the one-pod condition (P) is dominant to the three-pod condition (p), and normal leaf (L) is dominant to wrinkled leaf (l) . Pod type and leaf type are inherited independently. Determine the genotypes for the two parents for all possible matings producing the following offspring:

a. 318 one-pod normal, 98 one-pod wrinkled
b. 323 three-pod normal, 106 three-pod wrinkled
c. 401 one-pod normal
d. 150 one-pod normal, 147 one-pod wrinkled, 51 three-pod normal, 48 three-pod wrinkled
e. 223 one-pod normal, 72 one-pod wrinkled, 76 three-pod normal, 27 three-pod wrinkled

6. A man with group A blood marries a woman with group B blood. Their child has group O blood.

- What are the genotypes of these individuals?
- What other genotypes and in what frequencies, would you expect in offspring from this marriage?

7. Color pattern in a species of duck is determined by one gene with three alleles. Alleles H and I are codominant, and allele i is recessive to both. How many phenotypes are possible in a flock of ducks that contains all the possible combinations of these three alleles?

8. Phenylketonuria (PKU) is an inherited disease caused by a recessive allele. If a woman and her husband are both carriers, what is the probability of each of the following?

a. all three of their children will be of normal phenotype
b. one or more of the three children will have the disease
c. all three children will have the disease
d. at least one child out of three will be phenotypically normal

(*Note* Remember that the probabilities of all possible outcomes always add up to 1)

9. The genotype of F1 individuals in a tetrahybrid cross is AaBbCcDd. Assuming independent assortment of these four genes, what are the probabilities that F_2 offspring would have the following genotypes?

a. aabbccdd
b. AaBbCcDd
c. AABBCCDD
d. AaBBccDd
e. AaBBCCdd

10. In 1981, a stray black cat with unusual rounded curled-back ears was adopted by a family in California. Hundreds of descendants of the cat have since been born, and cat fanciers hope to develop the "curl" cat into a show breed. Suppose you owned the first curl cat and wanted to develop a true breeding variety.

- How would you determine whether the curl allele is dominant or recessive?
- How would you select for true-breeding cats?
- How would you know they are true-breeding?

11. What is the probability that each of the following pairs of parents will produce the indicated offspring (assume independent assortment of all gene pairs?

AABB CC

a. ~~AABbCc~~ x aabbcc ----> AaBbCc
b. AABbCc x AaBbCc -----> AAbbCC
c. AaBbCc x AaBbCc -----> AaBbCc
d. aaBbCC x AABbcc ----> AaBbCc

12. Karen and Steve each have a sibling with sickle-cell disease. Neither Karen, Steve, nor any of their parents has the disease, and none of them has been tested to reveal sickle-cell trait. Based on this incomplete information, calculate the probability that if this couple should have another child, the child will have sickle-cell anemia.

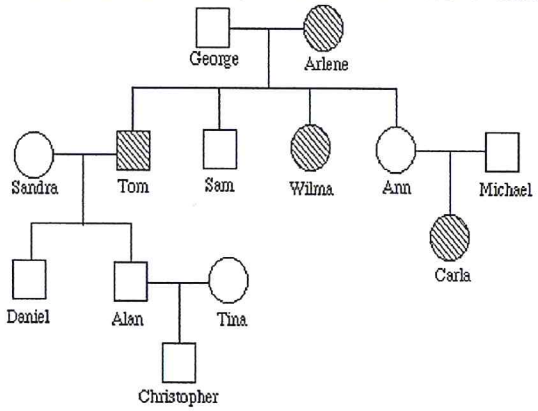
13. Imagine that a newly discovered, recessively inherited disease is expressed only in individuals with type O blood, although the disease and blood group are independently inherited. A normal man with type A blood and a normal woman with type B blood have already had one child with the disease. The woman is now pregnant for a second time. What is the probability that the second child will also have the disease? Assume both parents are heterozygous for the "disease" gene.

14. In tigers, a recessive allele causes an absence of fur pigmentation (a "white tiger") and a cross-eyed condition. If two phenotypically normal tigers that are heterozygous at this locus are mated, what percentage of their offspring will be cross-eyed? What percentage will be white?

IGNORE

15. In corn plants, a dominant allele I inhibits kernel color, while the recessive allele i permits color when homozygous. At a different locus, the dominant gene P causes purple kernel color, while the homozygous recessive genotype pp causes red kernels. If plants heterozygous at both loci are crossed, what will be the phenotypic ratio of the F_1 generation?

16. The pedigree below traces the inheritance of alkaptonuria, a biochemical disorder. Affected individuals, indicated here by the filled-in circles and squares, are unable to break down a substance called alkapton, which colors the urine and stains body tissues. Does alkaptonuria appear to be caused by a dominant or recessive allele? Fill in the genotypes of the individuals whose genotypes you know. What genotypes are possible for each of the other individuals?



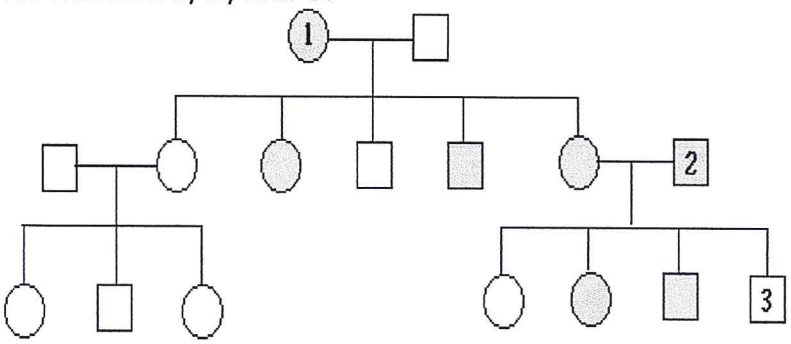
17. A man has six fingers on each hand and six toes on each foot. His wife and their daughter have the normal number of digits (5). Extra digits is a dominant trait. What fraction of this couple's children would be expected to have extra digits?

18. Imagine you are a genetic counselor, and a couple planning to start a family came to you for information. Charles was married once before, and he and his first wife had a child who has cystic fibrosis. The brother of his current wife Elaine died of cystic fibrosis. What is the probability that Charles and Elaine will have a baby with cystic fibrosis? (Neither Charles nor Elaine has the disease)

19. In mice, black color (B) is dominant to white (b). At a different locus, a dominant allele (A) produces a band of yellow just below the tip of each hair in mice with black fur. This gives a frosted appearance known as agouti. Expression of the recessive allele (a) results in a solid coat color. If mice that are heterozygous at both loci are crossed, what will be the expected phenotypic ratio of their offspring?

IGNORE

20. The pedigree below traces the inheritance of a vary rare biochemical disorder in humans. Affected individuals are indicated by filled-in circles and squares. Is the allele for this disorder dominant or recessive? What genotypes are possible for the individuals marked 1, 2, and 3.



Name_____Hour_____

WORKSHEET #1 Dihybrid: with incomplete dominance

GIVEN: In cattle the color red (R) is incompletely dominant over white (r). a heterozygous offspring produces the color called roan. Also. short legs (S) is incompletely dominant over long legs (s). a heterozygous offspring produces a medium length leg.

CROSS THE FOLLOWING: (*homozygous dominant vs. homozygous recessive)

male: red with short legs --------> _____

female: white with long legs --------> _____

F_1 generation: the results of crossing any two of these gametes

_____ how about that, they are all heterozygous!

what do they look like? _____

F_2 generation: Now cross two of these offspring, yes they are both the same!

male _____ --------> _____

female _____ --------> _____

Genotypes possible gametes

~~PUNNETT SQUARE~~ (you do it)

PHENOTYPE / RATIO

red, short leg _____

red. med. length _____

red. long leg _____

roan. short leg _____

roan. med. length _____

roan, long leg _____

white, short leg _____

white, med. length _____

white. long leg _____

Name_____

Multiple Alleles; crossing alleles with "addative" properties.

GIVEN: Skin color is due to the influence of two pair of genes.
A is dominant for dark skin over a
B is dominant for dark skin over b
* the more dominant genes that a person has, the darker the skin.
A heterozygous person is called a "mulatto" and has medium colored skin.
predict the phenotypes and the ratio of all of the possible offspring produced by the following parents.

CROSS; AABb "dark skin" and AaBb "mulatto"

Melosis AABb -----> _____ sex cells

Melosis AaBb -----> _____ sex cells

possible gametes

** relative scale

4 dominant = "black"

3 dominant = "dark skin"

2 dominant = "mulatto"

1 dominant = "light skin"

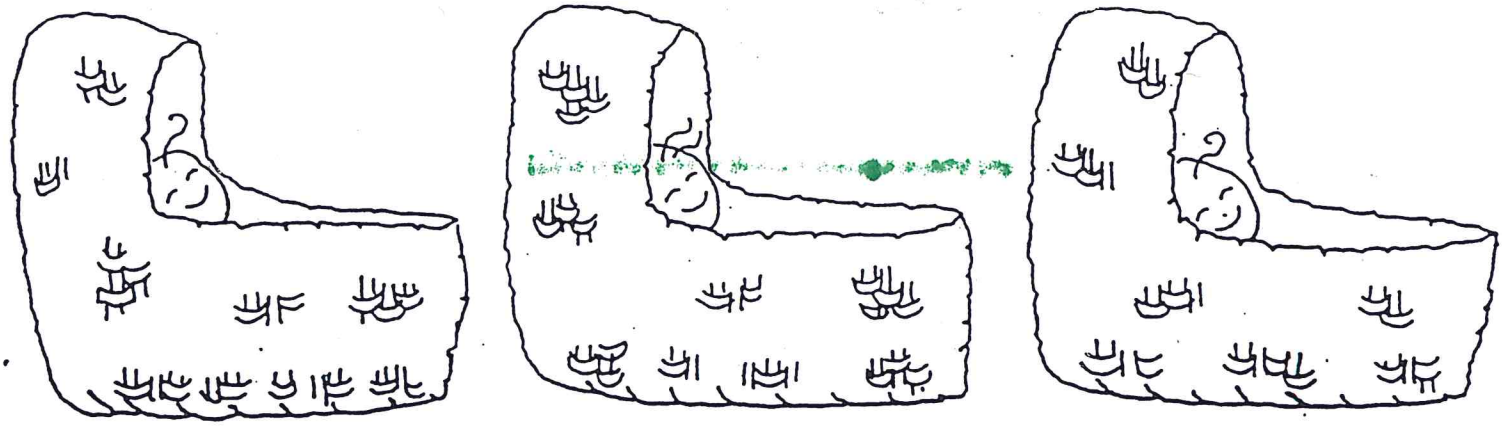
0 dominant = "white"

"Mulatto" medium

~~PUNNETTE SQUARE~~

PHENOTYPE / RATIO

THE BABY MIX UP



Baby A Baby B Baby C

In a hospital three babies were born simultaneously during a thunderstorm. The lights went off for a few seconds, during that time the babies were mixed. The hospital wants to be sure that it is giving the right baby to the right parents by attempting to match the blood types. Can you help?

The four human blood types are A, B, AB, and O.

Type A dominates O, so those having type A have either AA or AO genes.

Type B dominates O, so those with type B have either BB or BO genes.

Type AB, neither gene dominates; one gene is A, one is B.

Type O is recessive to A and B, so its genes must be OO.

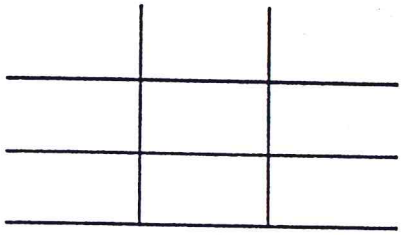
PARENTS	CHILDREN
The McBrides = type O and AB	Baby A is type AB
The Gonzales = type A and B	Baby B is type O
The Pepronis = type A and O	Baby C is type B

1. Who are the parents of baby A? _____
2. Who are the parents of baby B? _____
3. Who are the parents of baby C? _____

BLOOD TYPE AND INHERITANCE

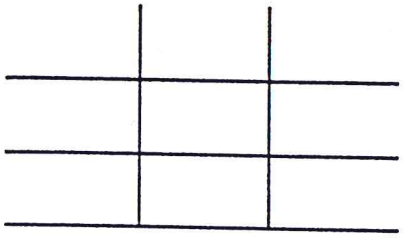
In blood typing, the gene for type A and the gene for type B are codominant. The gene for type O is recessive. Using Punnett squares, determine the possible blood types of the offspring when:

1. Father is type O, Mother is type O



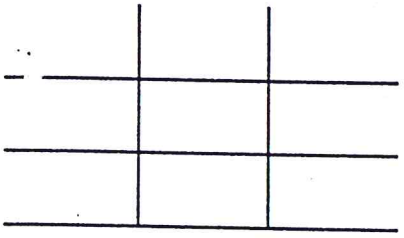
_____% O
_____% A
_____% B
_____% AB

2. Father is type A, homozygous; Mother is type B, homozygous



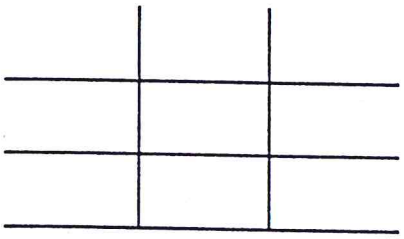
_____% O
_____% A
_____% B
_____% AB

3. Father is type A, heterozygous; Mother is type B, heterozygous



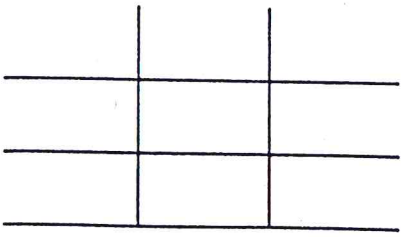
_____% O
_____% A
_____% B
_____% AB

4. Father is type O, Mother is type AB



_____% O
_____% A
_____% B
_____% AB

5. Father and Mother are both type AB



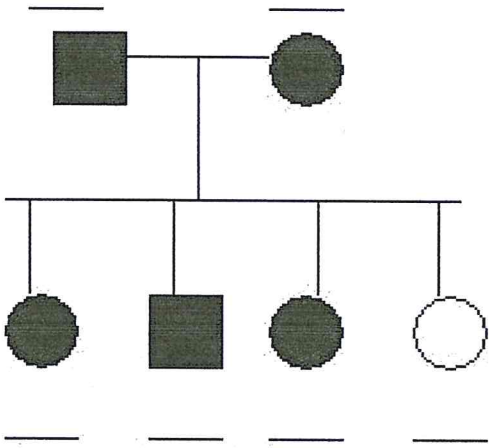
_____% O
_____% A
_____% B
_____% AB

Name _____ Date _____

AP Biology Pedigree Problem Set 1

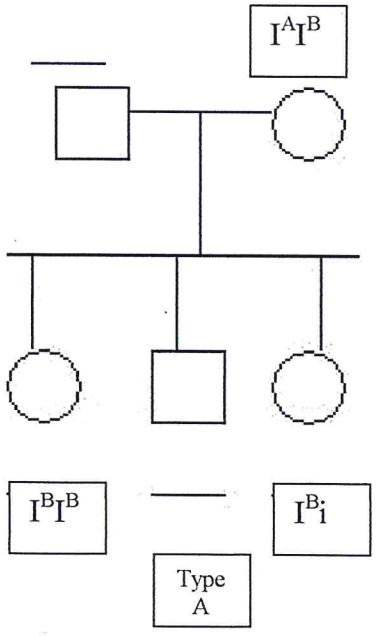
NOTE: Some genotypes cannot be determined in these problems- write ALL possible for those.

1. Jim and Jill are both tongue-rollers (TT or Tt – you determine which). They have 4 children. The children are shown in the pedigree below. Write in the genotype for **all** individuals on the pedigree. NOTE: In this pedigree, the individuals are only shown as having the trait- it is up to you to determine if they are homozygous or heterozygous- half-shaded boxes are NOT being used for this example.



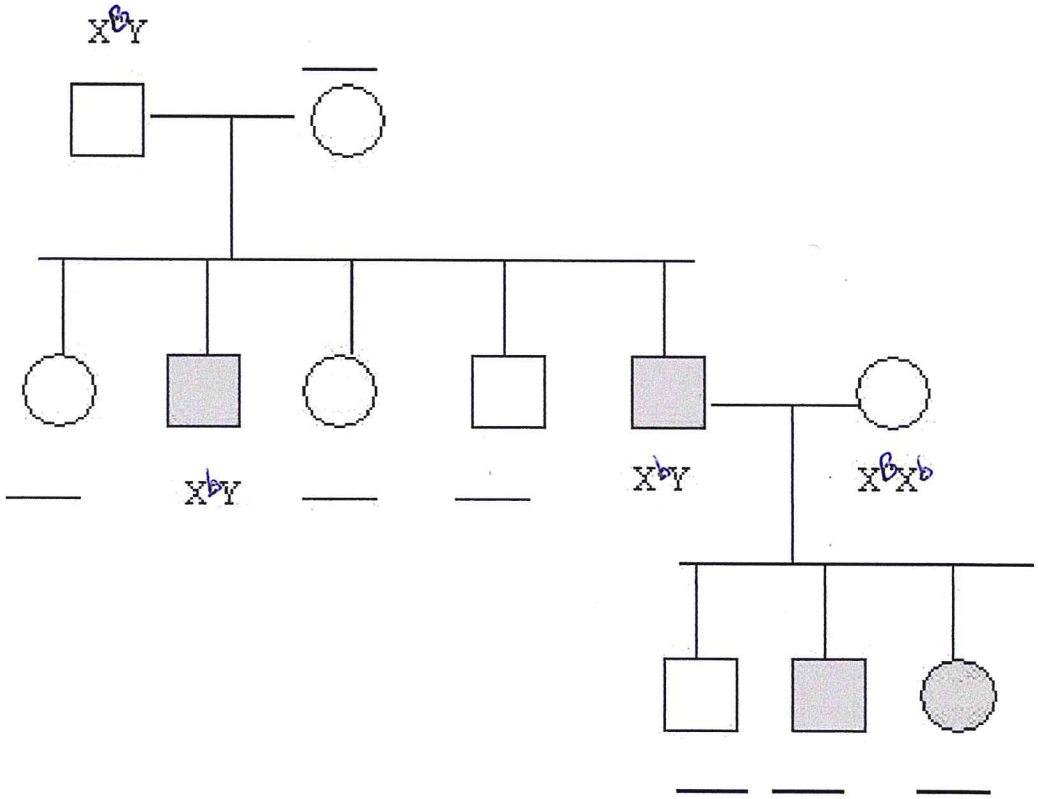
2. LaKeisha and Jamarcus have 3 children. LaKeisha has type AB blood and Jamarcus has type B blood. List the missing genotypes for the pedigree shown below. HINT: Work from bottom to top.

Blood Genotypes
A = I^AI^A, I^Ai
B = I^BI^B, I^Bi
AB = I^AI^B
O = ii



Name _____ Date _____

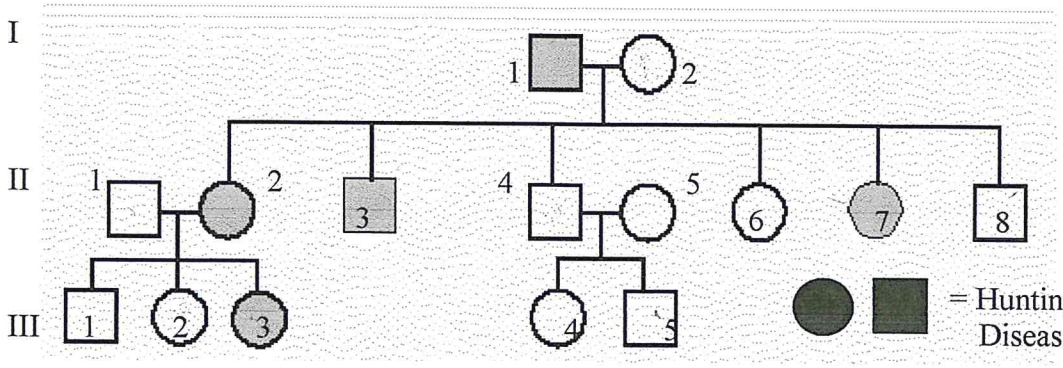
3. The gene for being red-green colorblindness is on the X-chromosome. This gene is sex-linked and more specifically X-linked. **Dominant** is normal vision and **recessive** is for this type of color-blindness. Males only have one X-chromosome (from their mother) and if they are recessive then they are colorblind. Females have 2 X-chromosomes, so they must have 2 recessive alleles to be colorblind (one from the mother and one from the father). Since gender matters, this is denoted using the sex chromosomes with superscripts- X^BY, for example.
   - Analyze the following pedigree and fill in the missing genotypes for the individuals.



4. Using the information you have learned about pedigrees, construct a pedigree for the following family. Use E for earlobe attachment. Shade the whole symbol for dominant traits and half of the symbol for heterozygous traits. **Unattached earlobes are dominant to attached.**
   - Father = heterozygous for unattached earlobes.
   - Mother = homozygous recessive for attached earlobes.
   - Male Child 1 = heterozygous
   - Male Child 2 = homozygous recessive
   - Female Child = heterozygous

Name _____ Date _____

AP Biology Pedigree Problem Set 2



1. Which members of the family above are afflicted with Huntington's Disease? _____

2. There are no carriers for Huntington's Disease- you either have it or you don't.
With this in mind, is Huntington's disease caused by a dominant or recessive trait? _____

3. How many children did individuals I-1 and I-2 have? _____

4. How many girls did II-1 and II-2 have? _____ How many have Huntington's Disease? _____

5. How is individual III-2 and II-4 related? _____ I-2 and III-5? _____

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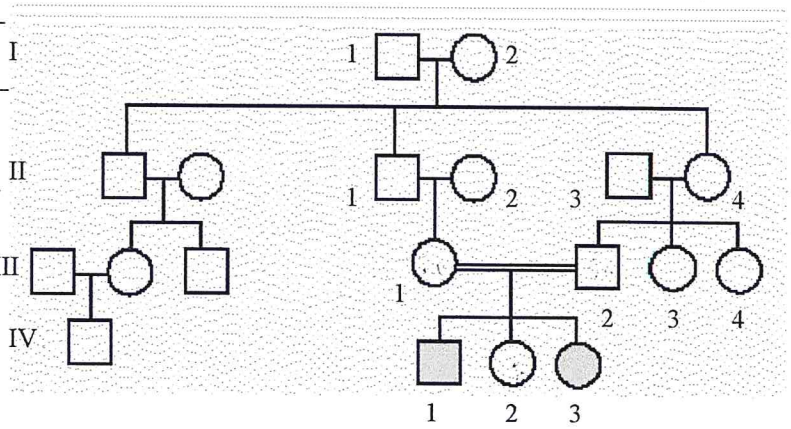
6. The pedigree to the right shows the passing on of Hitchhiker's Thumb in a family. Is this trait dominant or recessive? _____

7. How do you know? _____

8. How are individuals III-1 and III-2 related? _____

9. Name 2 individuals that have hitchhiker's thumb. _____

10. Name 2 individuals that were carriers of hitchhiker's thumb. _____



11. Is it possible for individual IV-2 to be a carrier? _____ Why? _____

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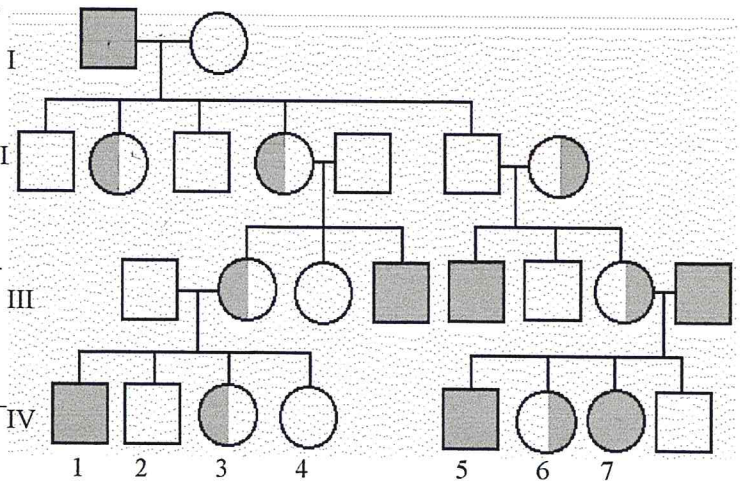
12. The pedigree to the right shows the passing on of colorblindness. What sex can ONLY be carriers of colorblindness? _____

13. With this in mind, what kind of non-mendelian trait is colorblindness? _____

14. Why does individual IV-7 have colorblindness? _____

15. Why do all the daughters in generation II carry the colorblind gene? _____

16. Name 2 IV generation colorblind males. _____



Name : _____ Date _____

AP Biology Pedigree Problem Set 3: Sex-Linked Pedigrees

Use the information provided below to create a pedigree. Then answer the question at the end of each description.

1. A man and woman marry. They have five children, 2 girls and 3 boys. The mother is a carrier of hemophilia, an X-linked disorder. She passes the gene on to two of the boys who died in childhood and one of the daughters is also a carrier. Both daughters marry men without hemophilia and have 3 children (2 boys and a girl). The carrier daughter has one son with hemophilia. One of the non-carrier daughter's sons marries a woman who is a carrier and they have twin daughters. **What is the percent chance that each daughter will also be a carrier?**

   X^H = normal
   X^h = hemophilia (a genetic disease or abnormality)
   Y = Y chromosome (males only)

2. The great-great maternal grandmother of a boy was a carrier for color-blindness, an X-linked disorder. His great uncle on his mother's side was colorblind but this great uncle's father was unaffected. The boy's mother has 2 brothers (1 colorblind, 1 unaffected) and 1 sister (unaffected). The boy's grandmother on his mother's side had 1 brother who was colorblind and 3 sisters. Two of these sisters were unaffected and one was a carrier. The boy's great grandmother on his mother's side had 4 sisters. The boy has one unaffected sister and he is colorblind. **What is the probability of the boy's sons being colorblind if he marries a non-carrier?**

   X^C = normal
   X^c = Colorblind (a genetic disease or abnormality)
   Y = Y chromosome (males only)

3. An unaffected man marries a woman who is a carrier for Duchenne Muscular Dystrophy, which is attributed to an X-linked gene. They have four children, one with Duchenne, one carrier daughter and a daughter and son who are unaffected. The child with Duchenne Muscular Dystrophy dies in childhood. The carrier daughter marries and has three children of her own, two of which are carriers and one of which is unaffected. **What is the most likely sex of these two carrier children given the fact that they are unaffected by the X-linked gene?**

   X^D = normal
   X^d = Duchenne MD (a genetic disease or abnormality)
   Y = Y chromosome (males only)

Name_____Hour___

T R I H Y B R I D

Given: Tall (T) is dominant over short (t)
Brown eye (B) is dominant over blue eyes (b)
Dark hair (D) is dominant over light hair (d)

GENOTYPES

P 1 Cross a homozygous tall, brown eyes, and dark hair short, blue eyes and light hair. _____ _____

F 1 YES! All of these offspring are heterozygous! _____

F 2 Show All possible results of a cross with TWO of the F 1

** You may use a separate sheet of paper for this assignment.

PHENOTYPES:	RATIO
tall-brown eyes-dark hair	___
tall-brown eyes-light hair	___
tall- blue eyes-dark hair	___
tall-blue eyes-light hair	___
short-brown eyes-dark hair	___
short-brown eyes-light hair	___
short-blue eyes-dark hair	___
short-blue eyes-light hair	___

Sex-Linked Practice Problems

1) The bison herd on Konza Prairie has begun to show a genetic defect. Some of the males have a condition known as "rabbit hock" in which the knee of the back leg is malformed slightly. We do not yet know the genes controlling this trait but for the sake of our question, we shall assume it is a sex-linked gene and that it is recessive. Now, suppose that the herd bull (the dominant one which does most of the breeding) who is normal (X^N) mates with a cow that is a carrier for rabbit hock. **Draw a punnett square to answer the questions**.

- What are his chances of producing a normal son?
- If he mates with this cow every year, what percentage of their daughters have normal knees?
- What percentage of their daughters will be carriers of rabbit hock?

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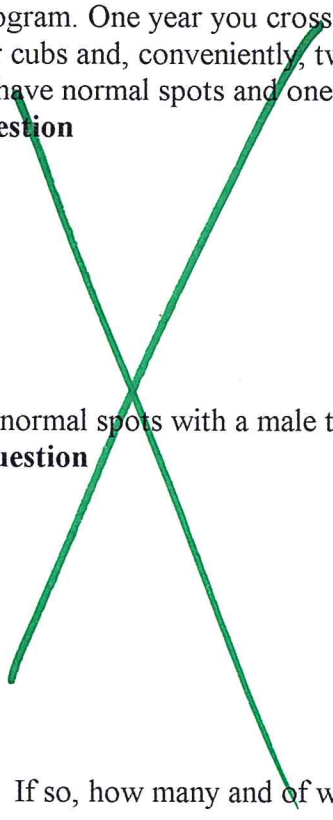
2) Clouded leopards are a medium sized, endangered species of cat, living in the very wet cloud forests of Central America. Assume that the normal spots (X^N, pictured here) are a dominant, sex-linked trait and that dark spots are the recessive counterpart. Suppose as a Conservation Biologist, you are involved in a clouded leopard breeding program. One year you cross a male with dark spots and a female with normal spots. She has four cubs and, conveniently, two are male and two female. One each of the male and female cubs have normal spots and one each have dark spots. **Draw a punnett square to answer the question**
What is the genotype of the mother?

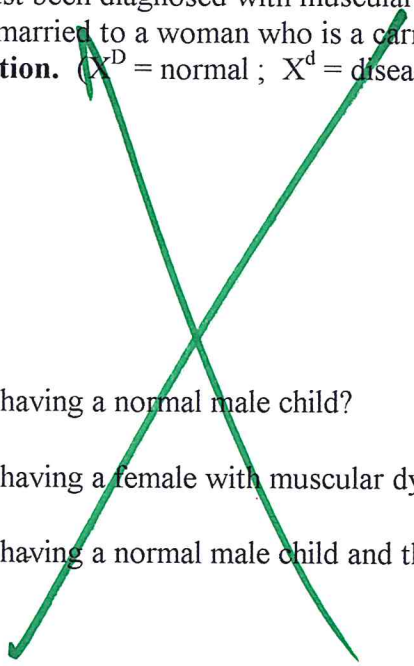


IGNORE

Suppose a few years later, you cross the female cub that has normal spots with a male that also has normal spots. **Draw a punnett square to answer the question**

- What percent of the cubs will be each genotype?
- Will any of the cubs from this latest cross have dark spots? If so, how many and of what sex will they be?

3) A 20-year-old man has just been diagnosed with muscular dystrophy, which is a sex-linked recessive trait. He just got married to a woman who is a carrier for the disease. **Draw a punnett square to answer the question.** (X^D = normal ; X^d = diseased)



- What are their chances of having a normal male child?
- What are their chances of having a female with muscular dystrophy?
- What are their chances of having a normal male child and then a non-carrier female child?

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4) Coat color in cats is a codominant trait and is also located on the X chromosome (sex-linked). Cats can be black, yellow or calico. A calico cat has black and yellow splotches. In order to be calico. the cat must have an allele for the black color and an allele for the yellow color. (the two possible genes on the X chromosome are: X^B = black; X^Y = yellow. There are no recessive genes)

Draw a punnett square to answer the question.
A black male mates with a calico female.

- What percent of the kittens will be: black males _____
  yellow males _____
  calico males _____
  black females _____
  yellow females _____
  calico females _____

- Calico cats are always female. It is impossible to have a male calico cat. Explain why.

Genetics Challenge Name _____

1. The abbreviation for deoxyribonucleic acid is ___ ___ ___ (26) .
2. A member of a gene pair that determines a specific trait is a(n) ___ (19) ___ ___ ___ ___ (25) ___ .
3. ___ ___ ___ ___ ___ (37) ___ is known as the Father of Genetics.
4. A ___ (38) ___ ___ (31, 53) ___ ___ ___ has genes that are different for a trait, such as Tt.
5. The actual gene makeup of an organism is its ___ ___ (18) ___ ___ ___ (58) ___ ___ ___ (48) .
6. ___ ___ (54) ___ ___ ___ ___ (51) are physical characteristics of an organism that are passed down from one generation to the next.
7. ___ ___ ___ (13) ___ ___ ___ ___ ___ ___ ___ ___ (4) ___ ___ ___ ___ ___ (12) ___ ___ ___ is a condition in which neither of the two genes in a gene pair masks the other.
8. ___ ___ ___ (57, 20) ___ ___ ___ ___ ___ ___ ___ ___ ___ (46) are rod-shaped structures found in the nucleus of every cell in an organism.
9. A ___ (6) ___ ___ ___ ___ ___ ___ ___ trait is expressed when two different genes for the same trait are present.
10. The physical appearance of a trait is called the ___ ___ (14) ___ ___ ___ (52) ___ ___ ___ ___ (32) .
11. Mendel experimented with ___ ___ ___ (34) ___ (41) ___ ___ ___ ___ ___ to learn about genetics.
12. A ___ (2) ___ ___ ___ ___ ___ ___ ___ (56) ___ ___ (35) ___ gene pair consists of two dominant alleles or two recessive alleles.
13. According to the ___ ___ ___ (47) of ___ ___ ___ ___ ___ (50) ___ ___ ___ ___ ___ ___ (23) one gene from each gene pair goes to each sex cell.
14. The traits of an organism are controlled by its ___ ___ (15) ___ ___ ___ (36) .
15. A ___ ___ (42) ___ ___ ___ (39) ___ ___ ___ (21) ___ ___ ___ ___ ___ (40) ___ is a chart used to show the possible gene combinations in across between two organisms.
16. A ___ (8) ___ ___ ___ ___ ___ ___ ___ ___ ___ (3) ___ ___ ___ (22) ___ gene pair that consists of a dominant allele and a recessive allele.
17. The ___ ___ (44) ___ ___ ___ ___ ___ ___ ___ (45) ___ ___ ___ generation is the offspring of the P, or parental, generation.
18. A ___ ___ (29) ___ ___ ___ ___ (55) ___ ___ ___ (30) ___ is a scientist who studies heredity.
19. A ___ (49) ___ ___ ___ ___ (27) ___ ___ (5) ___ ___ trait seems to disappear when two different genes for the same trait are present.
20. Organisms inherit genes in pairs, one from each ___ (43) ___ ___ ___ (11) ___ ___ (7) .
21. ___ (24) ___ ___ ___ ___ (9) ___ ___ ___ (33) ___ is the study of heredity.
22. The ___ ___ ___ (1, 17) of independent ___ ___ (28) ___ ___ ___ (16) ___ ___ ___ ___ ___ (10) states that each gene pair is inherited independently of the gene pairs for other traits.

Use the letters from the terms to complete the joke!

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30

?

31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58		

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T. Trimpe 2003 *http://sciencespot.net/*

Use the words to this song to draw a pedigree.

I'm My Own Grandpa

(Lonzo & Oscar)

It sounds funny, I know,
But it really is so,
Oh, I'm my own grandpa.

I'm my own grandpa.
I'm my own grandpa.
It sounds funny, I know,
But it really is so,
Oh, I'm my own grandpa.

Now many, many years ago, when I was twenty-three,
I was married to a widow who was pretty as could be.
This widow had a grown-up daughter who had hair of red.
My father fell in love with her, and soon they, too, were wed.

This made my dad my son-in-law and changed my very life,
My daughter was my mother, cause she was my father's wife.
To complicate the matter, even though it brought me joy,
I soon became the father of a bouncing baby boy.

My little baby then became a brother-in-law to Dad,
And so became my uncle, though it made me very sad.
For if he was my uncle, then that also made him brother
Of the widow's grown-up daughter, who, of course, was my stepmother.

Father's wife then had a son who kept him on the run,
And he became my grandchild, for he was my daughter's son.
My wife is now my mother's mother, and it makes me blue,
Because, although she is my wife, she's my grandmother, too.

Now if my wife is my grandmother, then I'm her grandchild,
And everytime I think of it, it nearly drives me wild,
For now I have become the strangest case you ever saw
As husband of my grandmother, I am my own grandpa!

I'm my own grandpa.
I'm my own grandpa.
It sounds funny, I know, but it really is so,
Oh, I'm my own grandpa.