

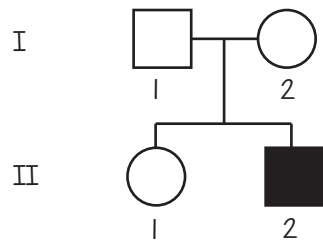
Name: _____

Class: _____

Date: _____

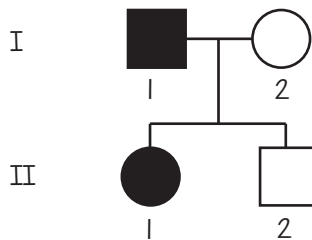
Pedigree Genetics Inferences: X-linked Disorders

Assume in the questions below that the affected individual has an X-linked recessive disorder. Use X^A , X^a , and Y .



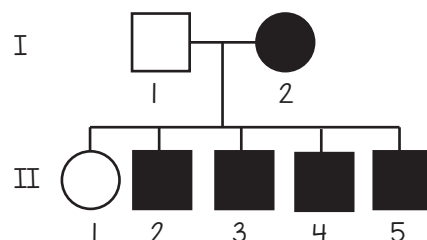
1. What is the genotype of I-2?

2. How do you know?



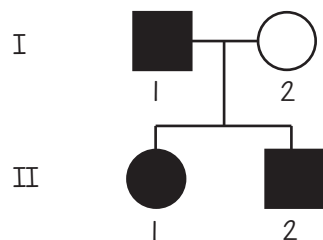
3. What is the genotype of II-1?

4. How do you know?



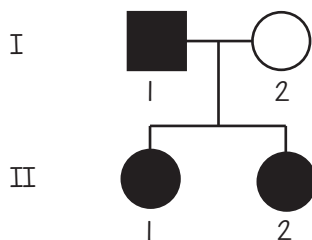
5. This couple is due to have a 6th child and they found out it's a boy. What will his phenotype be? Explain your answer.

Assume in the questions below that the affected individual has an X-linked dominant disorder. Use X^D , X^d , and Y .



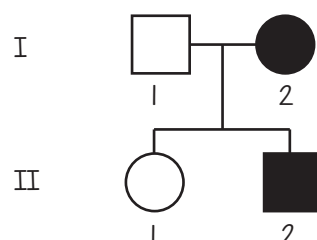
6. What is the genotype of I-2?

7. How do you know?



8. What is the genotype of II-1?

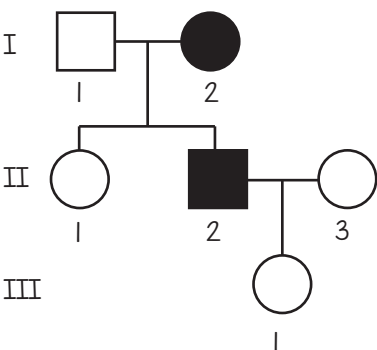
9. How do you know?



10. What is the genotype of I-1?

11. How do you know?

One pedigree shown below has a family with individuals affected by an x-linked recessive disorder. The other has a family affected by an x-linked dominant disorder. How do you know which is which? Label each pedigree with its inheritance pattern and explain your answer. REMEMBER: IF more individuals are affected, it DOES NOT mean the disorder is caused by a dominant allele. That is not a valid reason to use in your explanation.

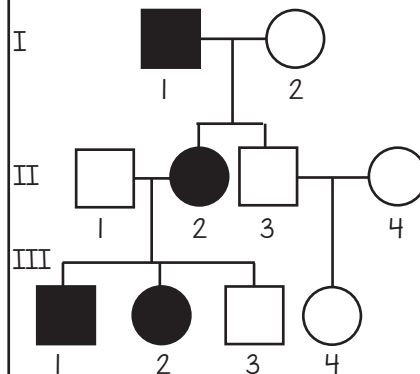


12. Inheritance Pattern:

13. How do you know?

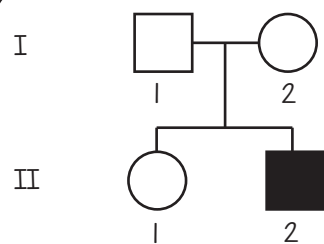
14. Inheritance Pattern:

15. How do you know?



Pedigree Genetics Inferences: X-linked Disorders

Assume in the questions below that the affected individual has an X-linked recessive disorder. Use X^A , X^a , and Y.

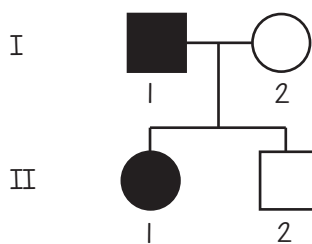


1. What is the genotype of I-2?

$X^A Y$

2. How do you know?

I-1 is male (has Y) and is not affected, therefore has X^A

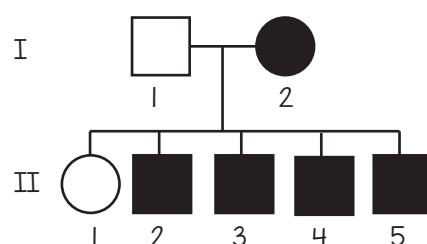


3. What is the genotype of II-1?

$X^a X^a$

4. How do you know?

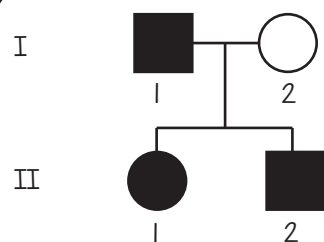
II-1 is female (has two X's) and is affected, therefore $X^a X^a$



5. This couple is due to have a 6th child and they found out it's a boy. What will his phenotype be? Explain your answer.

the mother is affected ($X^a X^a$), therefore every one of her son's will be.

Assume in the questions below that the affected individual has an X-linked dominant disorder. Use X^D , X^d , and Y.

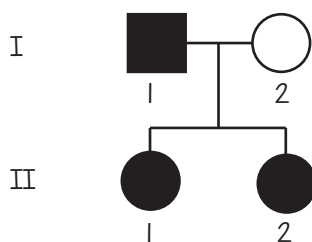


6. What is the genotype of I-2?

$X^d X^d$

7. How do you know?

I-2 is unaffected, therefore must have two recessive alleles.

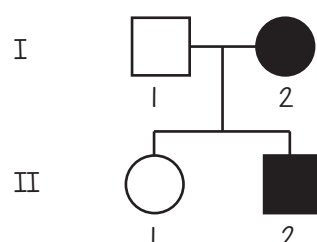


8. What is the genotype of II-1?

$X^D X^d$

9. How do you know?

II-1 has an unaffected mother who gave her a X^d . She is affected so also has X^D



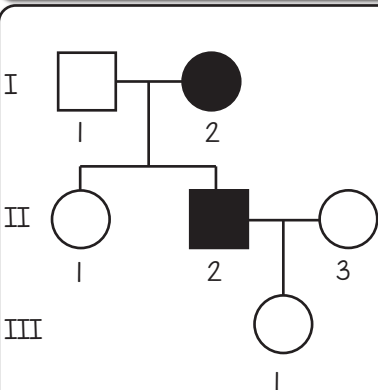
10. What is the genotype of I-1?

$X^d Y$

11. How do you know?

I-1 is male and unaffected, so has $X^d Y$

One pedigree shown below has a family with individuals affected by an x-linked recessive disorder. The other has a family affected by an x-linked dominant disorder. How do you know which is which? Label each pedigree with its inheritance pattern and explain your answer. REMEMBER: IF more individuals are affected, it DOES NOT mean the disorder is caused by a dominant allele. That is not a valid reason to use in your explanation.



12. Inheritance Pattern:

x linked recessive

13. How do you know?

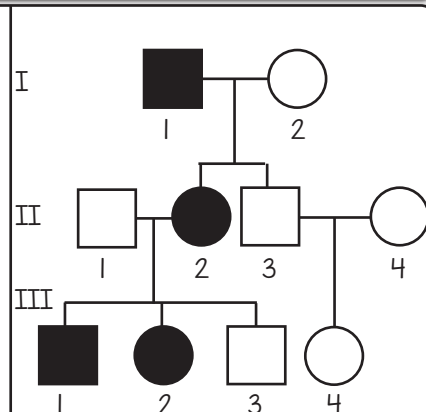
It must be recessive because the affected II-2 has a daughter who is not affected and she must have received his X.

14. Inheritance Pattern:

x linked dominant

15. How do you know?

Affected II-1 has an affected father and she has a son and daughter who are affected. If it was recessive, III-2 would not be affected because her father is unaffected.

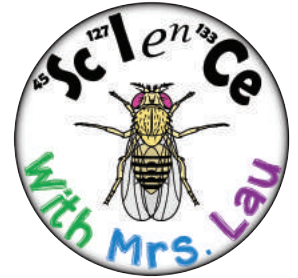


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