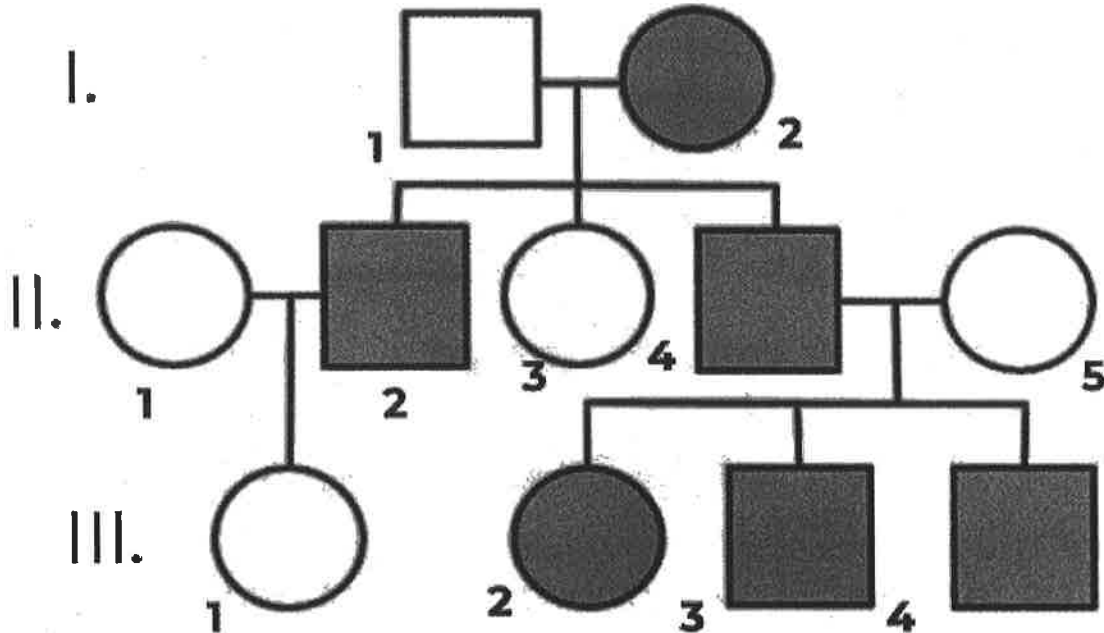


Station 1

THE TASK

PEDIGREE I

Read the paragraph about this pedigree. In the pedigree below, LABEL the genotypes of each individual.



What are the chances of individuals II-1 and II-2 having a child with 6 fingers? Show a punnett square as evidence.

CLAIM:

The is a _____ % chance of these individuals having a child with 6 fingers.

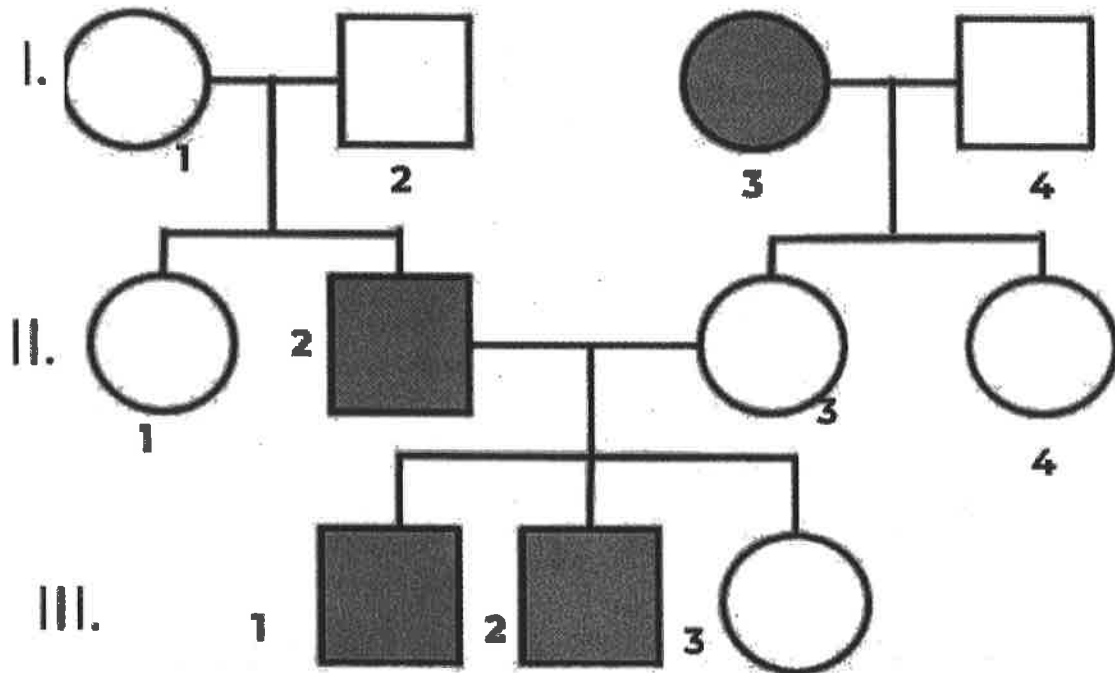
EVIDENCE:

REASONING:

The genotype of individual II-1 is _____. The genotype of individual II-2 is _____. This trait is a dominant/ recessive/ sex linked (circle) trait. In the punnett square, _____ of the 4 boxes, or _____ % had _____. People who have a genotype of _____ have 6 fingers.

PEDIGREE 2

Read the paragraph about this pedigree. In the pedigree below, LABEL the genotypes of each individual.



What are the chances of individuals II-2 and II-3 having a child with cystic fibrosis? Show a punnett square as evidence.

CLAIM:

The is a _____ % chance of these individuals having a child with cystic fibrosis.

EVIDENCE:

REASONING:

The genotype of individual II-2 is _____. The genotype of individual II-3 is _____.

This trait is a dominant/ recessive/ sex linked (circle) trait. In the punnett square, _____ of the 4 boxes, or _____ % had _____. People who have a genotype of _____ have cystic fibrosis.



Biology Unit 3: Mendelian Genetics

Assessment



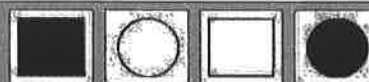
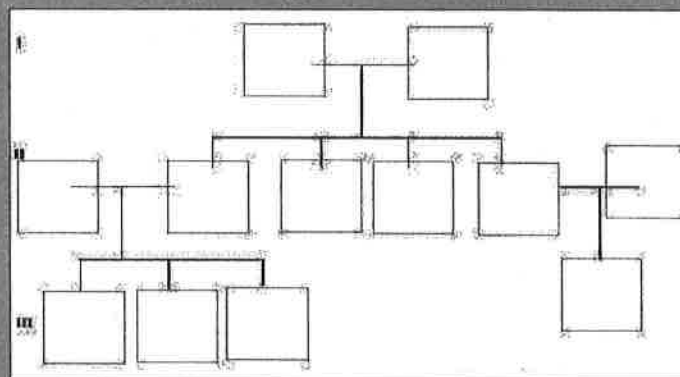
You have two new patients, Aaron and Isabel Klausner. Isabel has a family history of cystic fibrosis (CF). They have come to you, a genetic counselor, seeking advise about the chances of one of their children having CF.

Cystic fibrosis is a recessive disorder that mostly affects the lungs. People who are diagnosed with cystic fibrosis tend to have large mucus built up in their lungs and have serious trouble breathing. There is no treatment for CF but there are ways for doctors to manage the symptoms.

The first thing you ask the couple is to describe the family history. The family history is below:

- Isabel's mother Nancy was diagnosed with cystic fibrosis at a young age. Her husband, Mark does not have cystic fibrosis.
- Isabel is the oldest of 4 children— one boy and two girls. Isabel's brother and youngest sister each have CF.
- Isabel's youngest sister married a man who does not have cystic fibrosis but their son, Billy has CF.
- Aaron, Isabel's husband has no family history of cystic fibrosis.
- Isabel and Aaron have three boys none of which have CF.

Use the information provided by Aaron and Isabel in their family history report to construct a pedigree for the Klausner family.



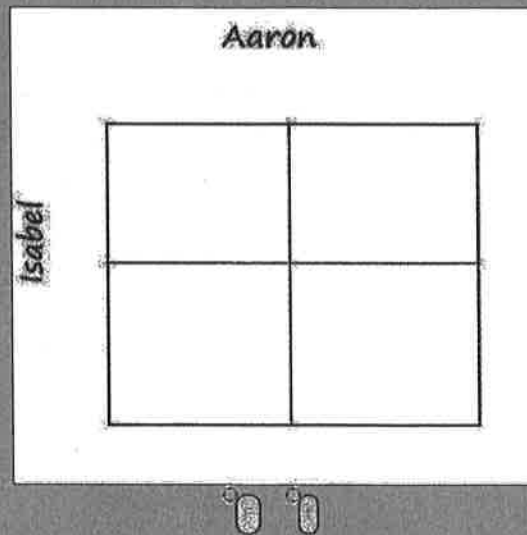
Check

**Assessment is a computer based assessment on the Moodle Platform*



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Using the information from the pedigree, construct a Punnett Square to predict the potential genotypes of Isabel's and Aaron's children.



Check

Based on the data you collected from Aaron and Isabel, should they be worried about having a child with cystic fibrosis?

Claim: Aaron and Isabel have a % chance of having a child with cystic fibrosis.

Evidence: Aaron has a genotype of and Isabel has a genotype of . The Punnett Square shows Aaron and Isabel can only produce a child who is homozygous , genotype , or a child who is heterozygous, genotype .

Reasoning: A parent passes on one to its offspring (kids). We use a to predict the potential of offspring. Aaron is homozygous and can only pass on a allele. Cystic fibrosis is a trait. This means in order to have the disease you must have two copies of the allele. % of Aaron and Isabel's children will have cystic fibrosis because Aaron passes on to his children.

Check

- 0
- 25
- 50
- 100
- 75

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Directions: Watch the video <https://goo.gl/LLFvp8> and complete the graphic organizer. Use the information you gathered to construct an argument to answer the question.

QUESTION: Are identical twins really identical?

Use the boxes below to gather information as you watch the video.

<i>Identical twins are identical genetically.</i>	<i>Identical twins are not identical genetically.</i>
<i>Evidence (facts/ statements/ data)</i>	<i>Evidence (facts/ statements/ data)</i>
<i>Reasoning (the science behind your facts)</i>	<i>Reasoning (the science behind your facts)</i>



Use the boxes below to construct your argument.
YOUR ARGUMENT SHOULD BE IN COMPLETE SENTENCES.

QUESTION: Are identical twins really identical?

CLAIM: 1 sentence answer to the question

EVIDENCE: 3-4 sentences of FACTS from the video

REASONING: 3-4 sentences of the science behind your evidence (connects evidence together)



Biology Unit 3: Mendelian Genetics

Assessment

Watch the video about nature vs. nurture. As you watch identify evidence and reasoning to support the competing claims shown below.

Claim 1: Your personality is because of your genes (nature).

Claim 2: Your personality is because of your environment (nurture).

Using the information provided in the video, sort the information at the bottom into its proper location.

CLAIM Your personality is because of your genes.

EVIDENCE 1
2

REASONING 1
2

CLAIM Your personality is because of your environment.

EVIDENCE 1
2

REASONING 1
2

In rats, licking the young is a sign of taking care of the babies.

The trait of licking (caring mothers) was passed down through many generations.

Rats who grew up being licked are more likely to lick their own babies.

Lifestyle changes which genes are turned on and off in the body.

Rats with high licking mothers that are not related still grow up to be caring.

The expression of genes (genes doing their jobs) changes the traits that are seen.

Rats with high licking mothers that are not related still grow up to be caring and show different gene expression.

Check

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