

Sex Linked Traits

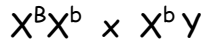
Name _____

1. a) What are the two sex chromosomes? _____ and _____
- b) Which of these chromosomes is larger than the other? _____
- c) Sex linked traits are found only on the _____ chromosome.
- d) Since males only have one X chromosome they only need to have _____ recessive allele to be affected by it.



Sorry, I'm colour-blind:
Is she wearing a Red Riding-Hood?

2. Cross a carrier (heterozygous) woman with normal vision with a colorblind man.



Legend	Parents	Cross it	Offspring Genotype Possibilities	Offspring Phenotype Possibilities
$X^B X^B$ - normal girl	$X^B X^b$ x $X^b Y$			
$X^B X^b$ - normal (carrier) girl				
$X^b X^b$ - colorblind girl				
$X^B Y$ - normal boy				
$X^b Y$ - colorblind boy				

3. Bill and Bertha want to know if they have a chance at passing on colorblindness to their kids.
Bill and Bertha are not colorblind. However, Bertha's father was colorblind (she's a carrier).

Legend	Parents	Cross it	Offspring Genotype Possibilities	Offspring Phenotype Possibilities
$X^B X^B$ -				
$X^B X^b$ -				
$X^b X^b$ -				
$X^B Y$ -				
$X^b Y$ -				

4. Hemophilia is a sex-linked trait. Sylvia knows that she is a carrier for the disease and that her husband is normal.

Legend	Parents	Cross it	Offspring Genotype Possibilities	Offspring Phenotype Possibilities				
	$X^H X^h$ × $X^H Y$	<table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; height: 50%;"></td> <td style="width: 50%; height: 50%;"></td> </tr> <tr> <td style="width: 50%; height: 50%;"></td> <td style="width: 50%; height: 50%;"></td> </tr> </table>						

5. Male pattern baldness is another recessive sex-linked trait. Wilbur's Mother is bald, and his father isn't. Cross Wilbur with a woman who is a carrier for baldness.

Legend	Parents	Cross it	Offspring Genotype Possibilities	Offspring Phenotype Possibilities				
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In male pattern baldness, hair recedes in an "m" shape, the crown bald patch eventually meeting the top points to form a horseshoe shape

