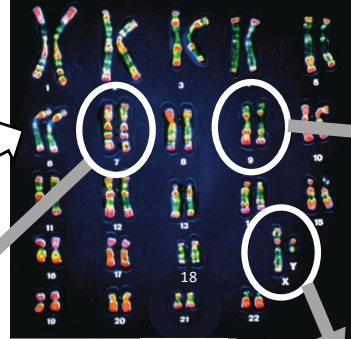




Haploid or diploid? # chromosomes Undergo meiosis?

Somatic cells		
Germ cells		
Gametes		

Will his gametes be sperm, eggs, or a mix of both? _____



ABO gene is on chromosome 9 and determines blood type. Possible alleles: I^A , I^B (codominant) and i (recessive).

One homologous pair

9

I^A I^A I^B I^B

Why doesn't the i allele appear anywhere in this diagram?

Draw all the types of gametes he can make, relative to the *ABO* gene.

CFTR gene is on chromosome 7. Recessive allele, f , is associated with cystic fibrosis.

One homologous pair

centromere

7

f f F F

Why does each chromosome have two chromatids?

What will happen to these four chromatids in meiosis?

Draw all the types of gametes he can make, relative to the *CFTR* gene.

HEMA gene is on X chromosome. Recessive allele, X^h , is associated with hemophilia.

Sex chromosomes

Label the X and Y chromosomes

X^h X^h

Which sex chromosome came from his mom, and which came from his dad?

Why isn't the *HEMA* gene marked on the Y chromosome?

Draw all the types of gametes he can make, relative to the *HEMA* gene.

Bonus: For these three genes, list all possible allele combinations that could appear in his gametes. You'll need to use the back of the page.

	This man's genotype	This man's phenotype	His mate's genotype	His mate's phenotype	Their kids' possible genotypes
<i>CFTR</i> gene			FF		
<i>HEMA</i> gene			X^hX^H		
<i>ABO</i> gene			$I^B i$		