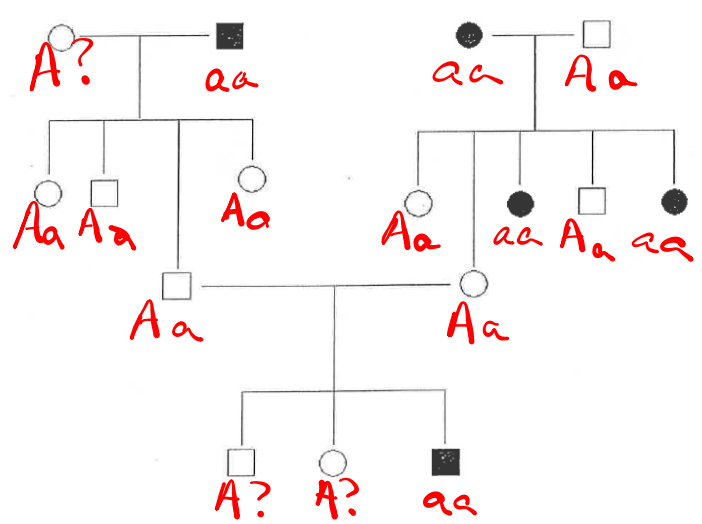
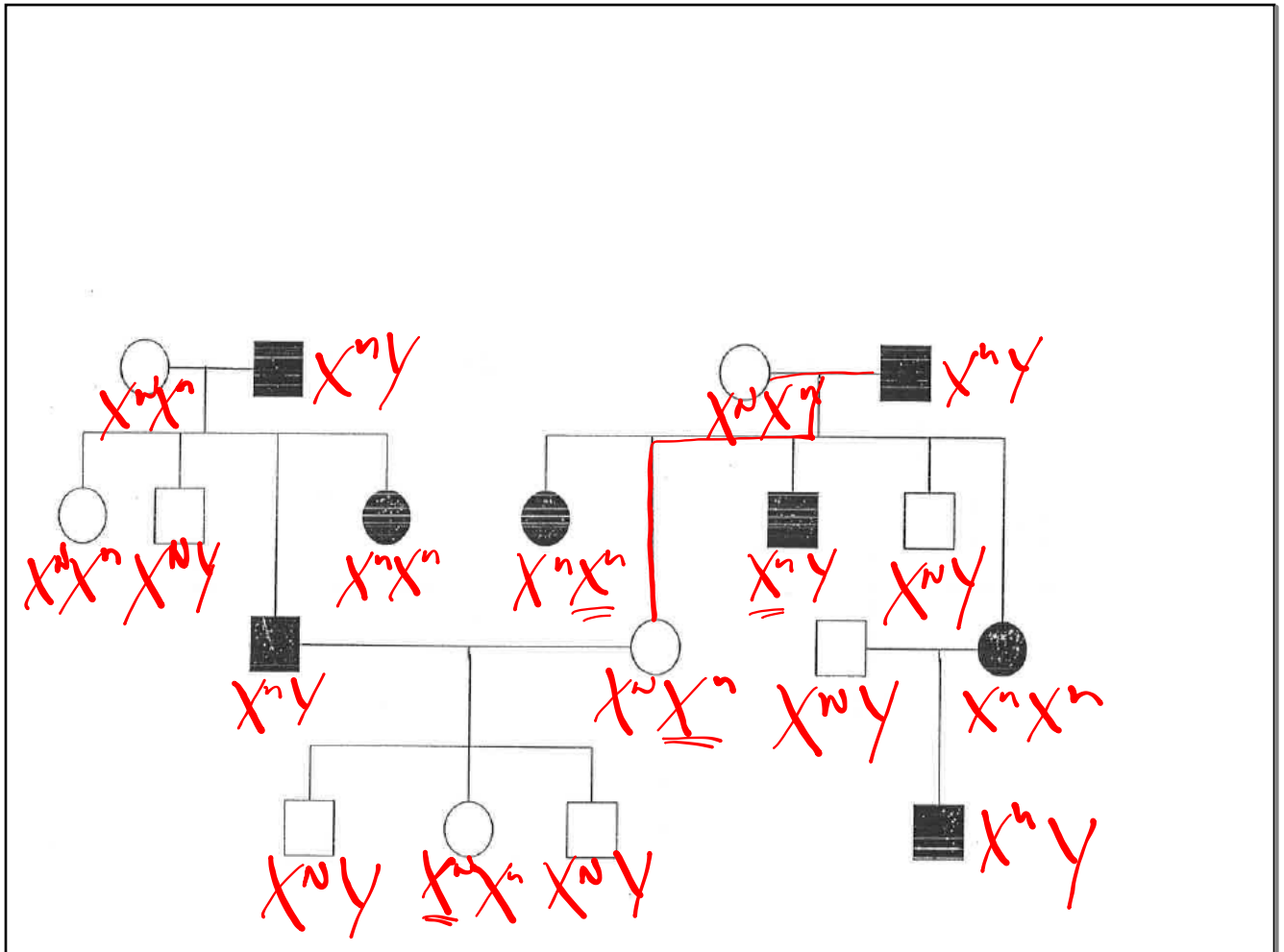


choose:  $\left( \begin{array}{l} AA \\ Aa \\ aa \\ A? \end{array} \right)$





MEIOSIS → GAMETES → "1 set"

- HAPLOID ( $\frac{1}{2}$  # chromosomes)
- GENETICALLY DIFFERENT!

↳ CROSSING OVER

↳ INDEPENDENT ASSORTMENT

diploid  
2 sets

# KARYOTYPE / KARYOGRAM

	"						
1	2	3	4	5	6	7	8
	"						
9	10	11	12	13	14	15	
			"				
16	17	18	19	20	21	22	X

Monohybrid cross:

P<sub>1</sub>: TT × tt  
 tall      short

F<sub>1</sub>: Tt — 100% tall

F<sub>1</sub> cross: Tt × Tt

F<sub>2</sub>:

	T	t
T	TT	Tt
t	Tt	tt

phenotype ratio  
 3:1

Dihybrid cross:

P:  $yyRR \times yyrr$   
 yellow round      green, wrinkled

F<sub>1</sub>:  $YyRr$  — all yellow, round

F<sub>1</sub> cross:  $(YyRr) \times YyRr$

GAMETES:  
 ("FOIL")

$\begin{array}{c} YR \\ Yr \\ yR \\ yr \end{array}$

(F<sub>2</sub>)

	YR	Yr	yR	yr
YR	YYRR	YYRr	YyRR	YyRr
Yr	YYRr	YYrr	YyRr	Yyrr
yR	YyRR	YyRr	yyRR	yyRr
yr	YyRr	Yyrr	yyRr	yyrr

phenotype  
ratio:

9:3:3:1

incomplete dominance:  
neither is dom. → hybrid phenotype  
show a "blend"

Codominance:  
both alleles contribute to phenotype

## Blood groups:

- Rh factor: simple dom/rec: + or -

- ABO - codominance - A+B  
- multiple alleles

$I_A I_B$  - AB

$I_A I_A$  or  $I_A i$  - A

$I_B I_B$  or  $I_B i$  - B

$ii$  - O

universal donor - O

universal recipient - AB





polygenic - 2 or more genes  
control trait

- many, many phenotypes

