

WHERE: IN GERM CELLS LOCATED IN REPRODUCTIVE ORGANS
 MEIOSIS RESULTS IN: GAMETES SPERM OR EGG.

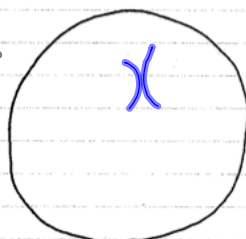
MEIOSIS
 DIPLOID
 GOAL:

HAVE 2 SETS GENETIC INFO

HAPLOID 1 SET GENETIC INFO. SPERM OR EGG

SPECIAL KIND OF CELL DIVISION WHERE DIPLOID GERM CELLS ARE DIVIDED INTO HAPLOID GAMETES

INTERPHASE

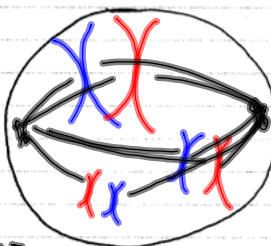


$m = \text{COMPLETE SETS}$
 $2n$
 G_1
 S
 G_2

PROPHASE I

→ NUCLEAR MEMBRANE BREAKS DOWN

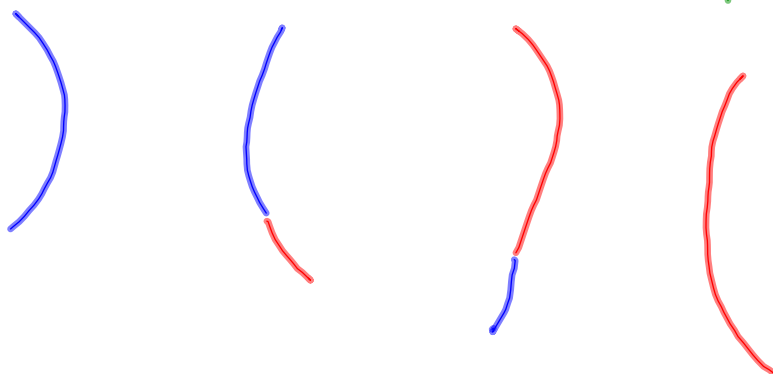
→ CENTRIOLE MOVE TO OPPO. POLES & MAKE SPINDLE FIBERS ATTACH TO CENTROMERE EACH DUPLICATED CHROMOSOME.

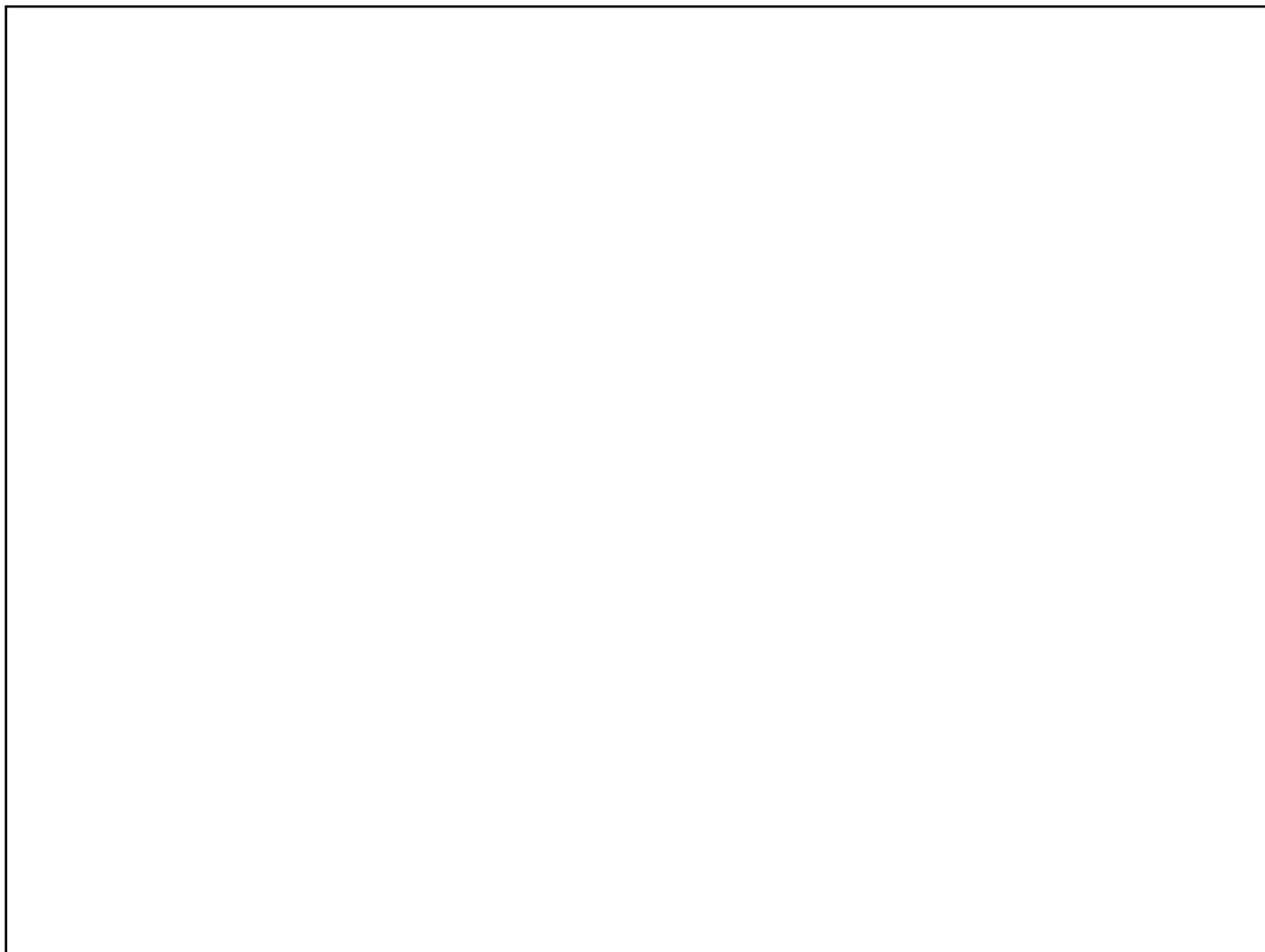


HOMOLOGOUS PAIRS

→ SIMILAR CHROM. INHERITED FROM EACH PARENT SAME SIZE, SHAPE,

CROSSING OVER GENETIC INFO
 EQUAL ... SAME, NOT IDENTICAL
 EXCHANGE
 OF GENETIC MATERIAL BETWEEN NON SISTER CHROMATIDS OF A TETRAD.

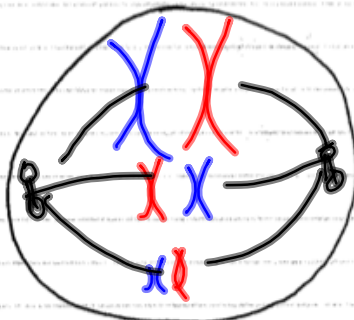




METAPHASE I

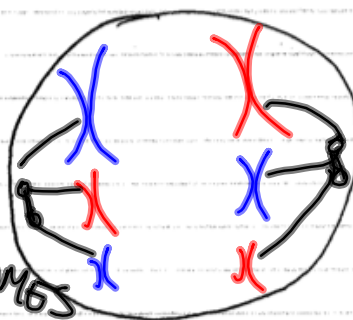
SPINDLE FIBERS
MOVE HOMOLOGOUS
PAIRS TO THE
EQUATOR.

"TETRAADS"



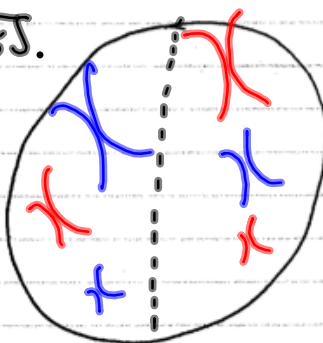
ANAPHASE I

HOMOLOGOUS PAIRS
ARE SEPARATED
w/ DUPLICATED CHROMOSOMES
PULLED TO OPPO.
POLES.

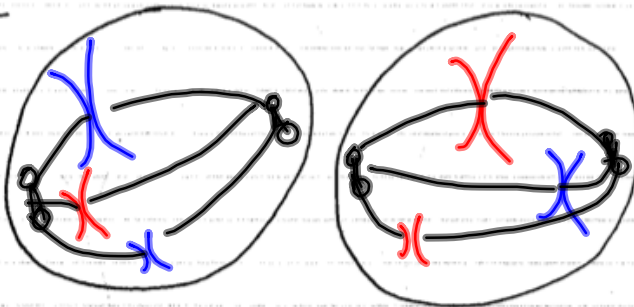


TELOPHASE I

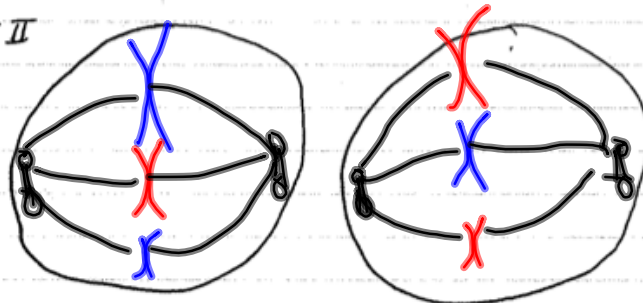
DUPLICATED
CHROMOSOMES REACH
OPPO. POLES.
& CELL WILL
SPLIT



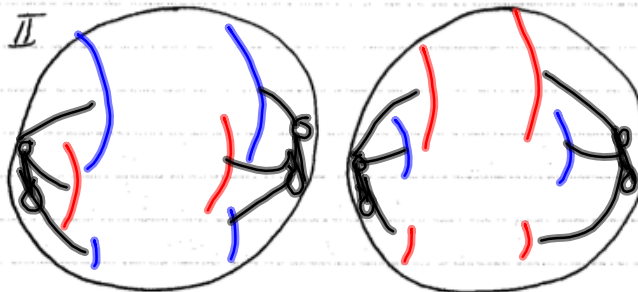
PROPHASE II



METAPHASE II

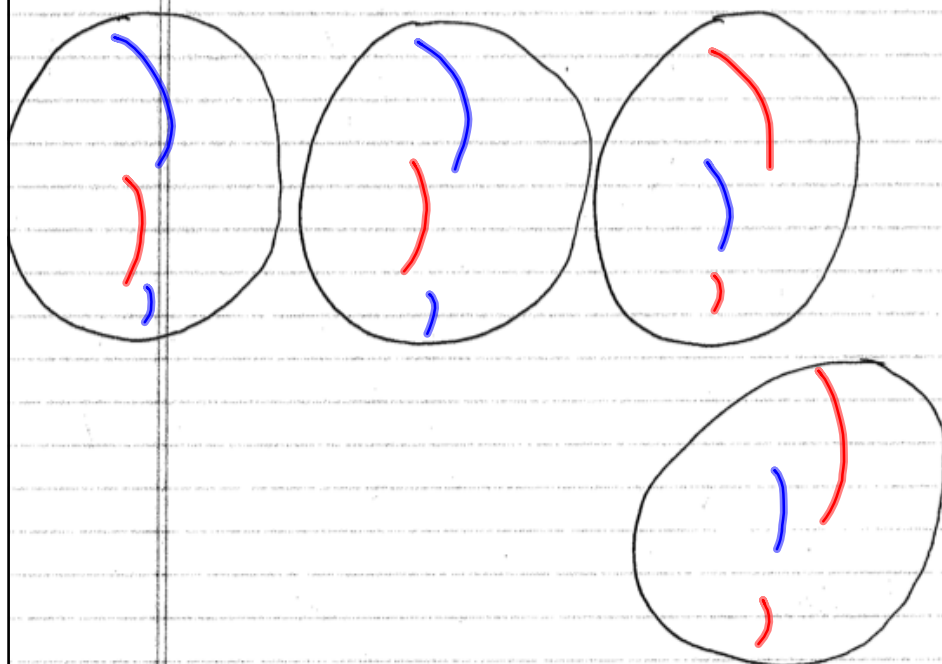


ANAPHASE II



TELOPHASE II

4 HAPLOID
GAMETES.



AT WHAT PHASE IS THE COMBINATION
OF CHROMOSOMES THAT WILL END
UP IN GAMETES ESTABLISHED?

① METAPHASE I RANDOM ALIGNMENT
OF EACH HOMOLOGOUS PAIR @ EQUATOR
↳ LAW INDEPENDENT
ASSORTMENT

$$2^{23} = 8 \times 10^6$$

② CROSSING OVER IN
PROPHASE I.