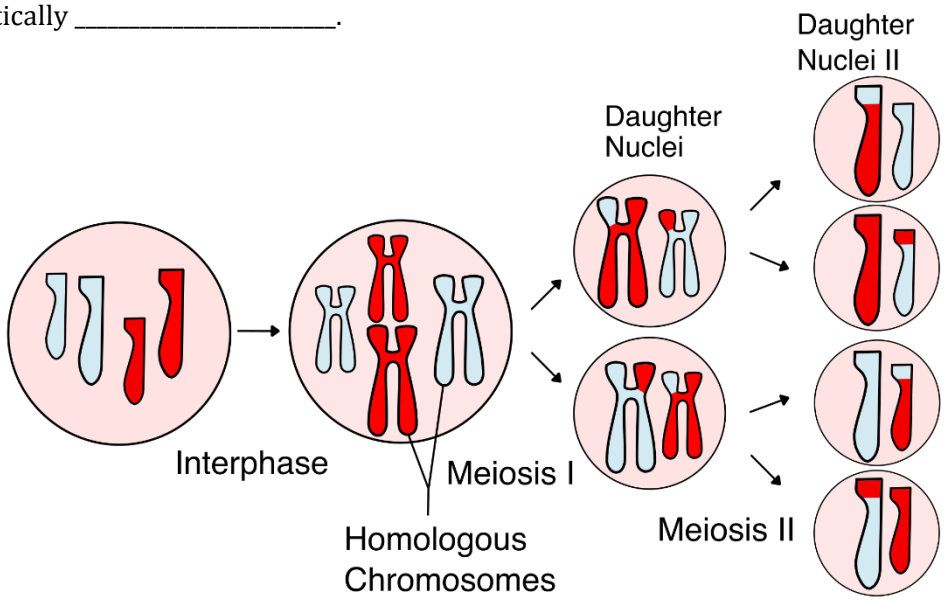
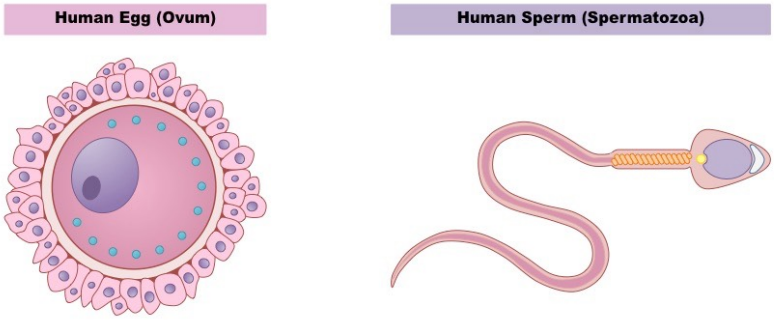
Meiosis

Meiosis is the division of cells that results in _____ cells with _____ of the chromosomes of the parent cell.

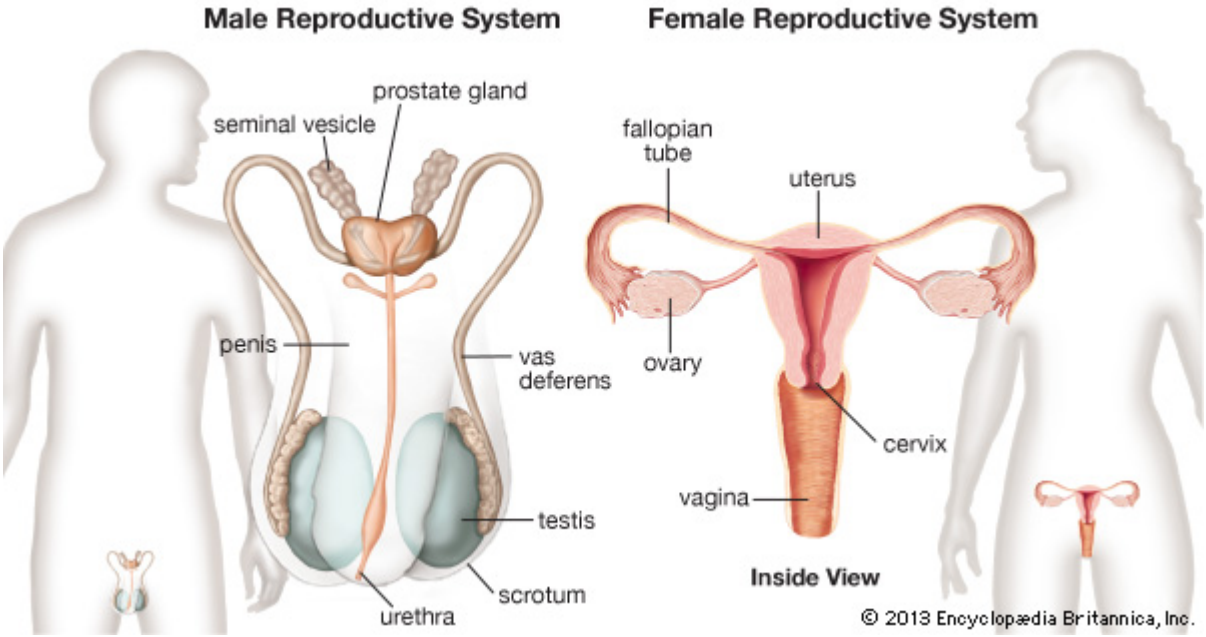
Each cell will be genetically _____.



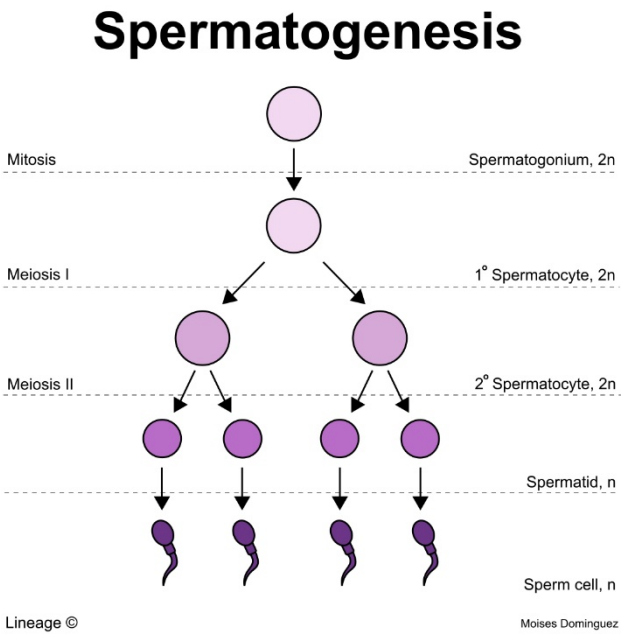
Male gametes are called _____ while female gametes are called _____



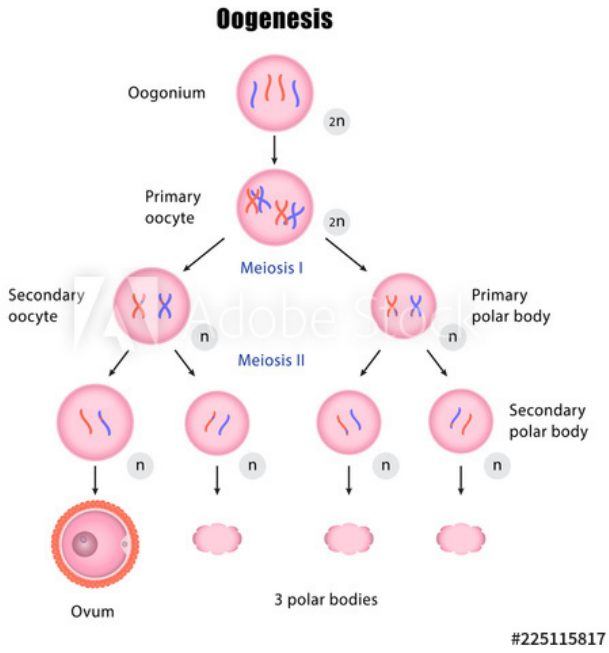
Male gonads are called _____ and female gonads are called _____



Spermatogenesis starts with a diploid cell called a _____ and will form _____ genetically different _____, with a _____. Males can produce _____ sperm per minute.

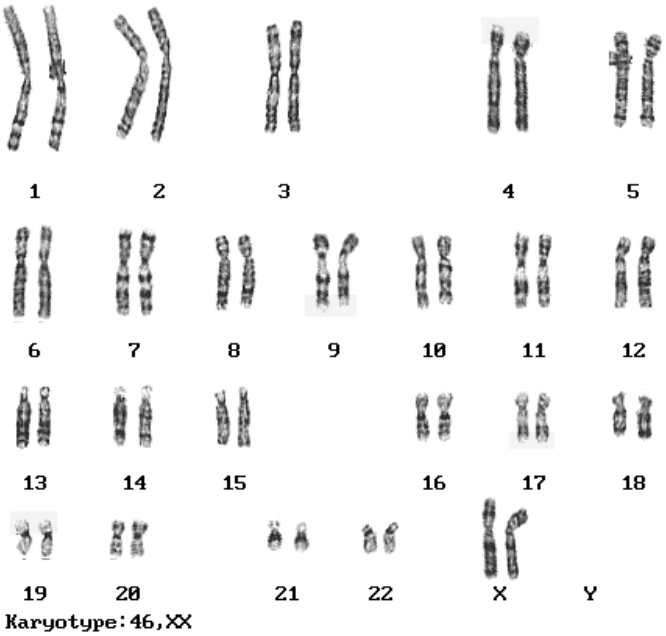


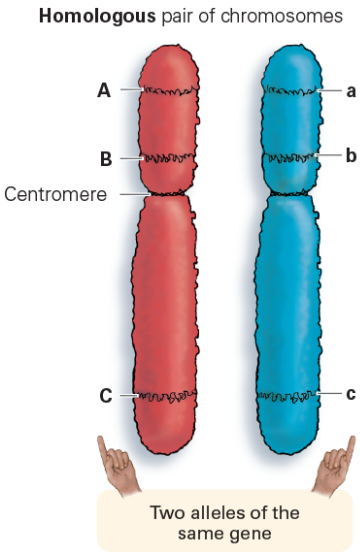
Oogenesis starts with a diploid cell called a _____ and will form _____ haploid egg and _____ polar bodies. The egg has all of the _____ needed to form a _____. _____ egg will mature every menstrual cycle (_____ days)



It's All About The Numbers

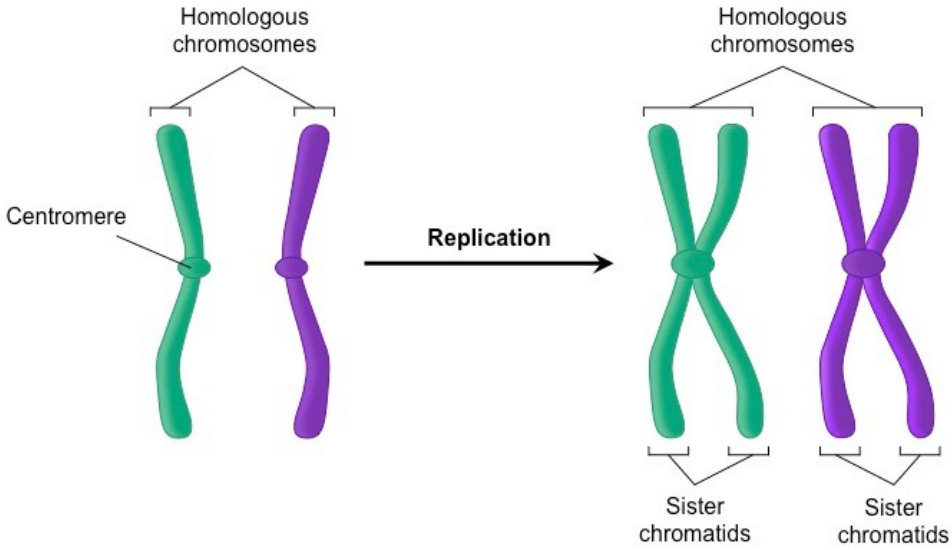
A normal human cell contains _____ chromosomes. They received _____ from mom and _____ from dad. 23 is the _____ number while _____ is the diploid number.





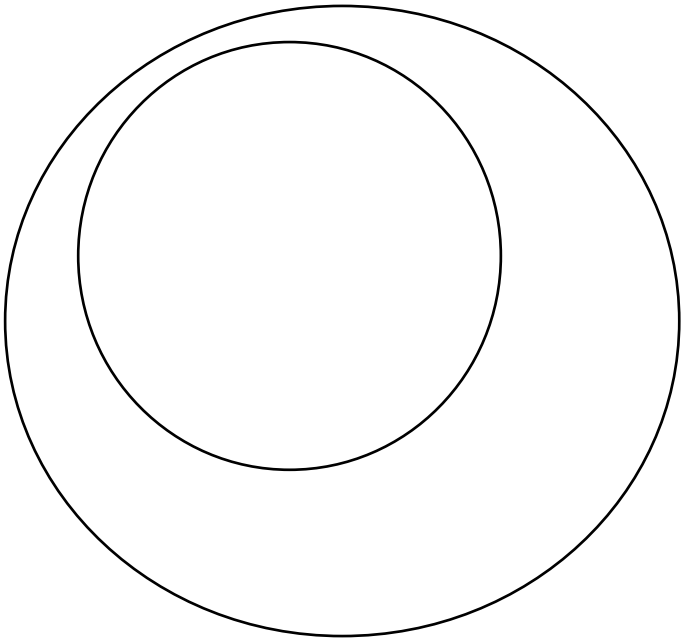
A homologous chromosome is the same number with the same genes in the same place. These are _____ identical.

When the homologous chromosomes replicate, each replicated pair will be identical and are called _____ chromatids.

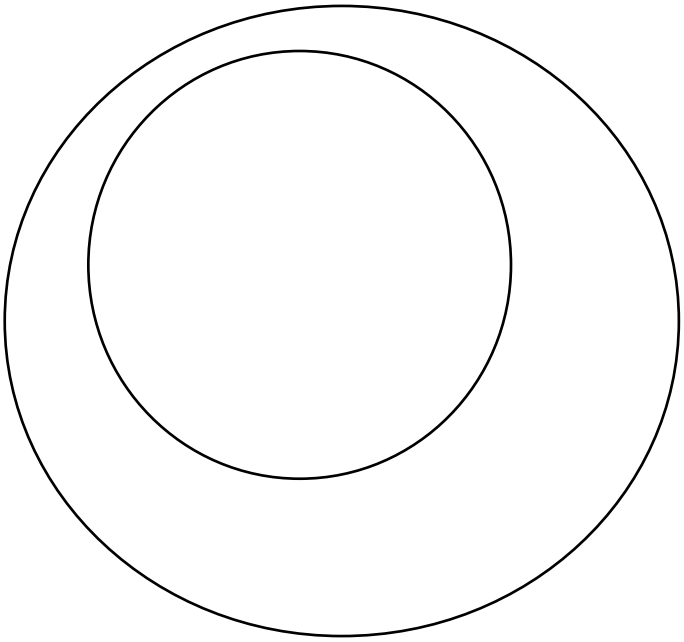


In meiosis the chromosomes _____ once but split _____.

4 Single Stranded Chromosomes



4 Double Stranded Chromosomes



Meiosis has two stages, meiosis 1 and meiosis 2. In meiosis 1, chromosomes are replicated and crossing over occurs. The homologous chromosomes will split and 2 cells will form. Each cell will have half the chromosome number but equal amounts of DNA as the original cell. In meiosis 2, no replication occurs but the cells will divide. The resulting cells will have half of the chromosomes and half of the DNA as the original cell.

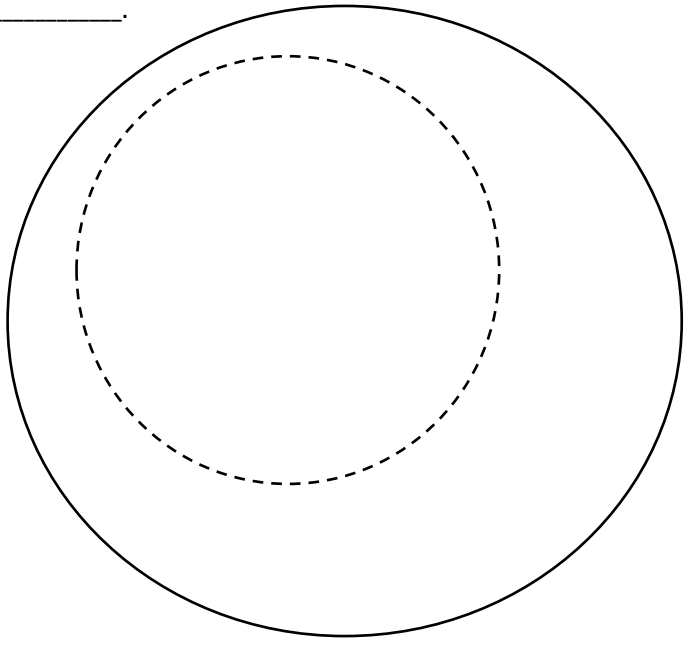
Prophase 1

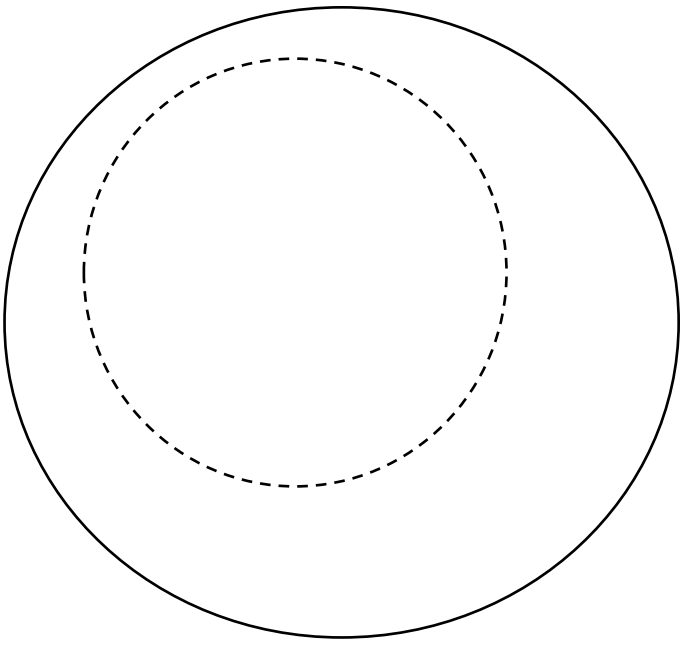
-Nuclear envelope _____ and nucleolus _____

-Centrioles move towards the _____ and _____form

-Condensed chromosomes interact. _____ pairs (_____) swap DNA at the

_____. This is called _____.

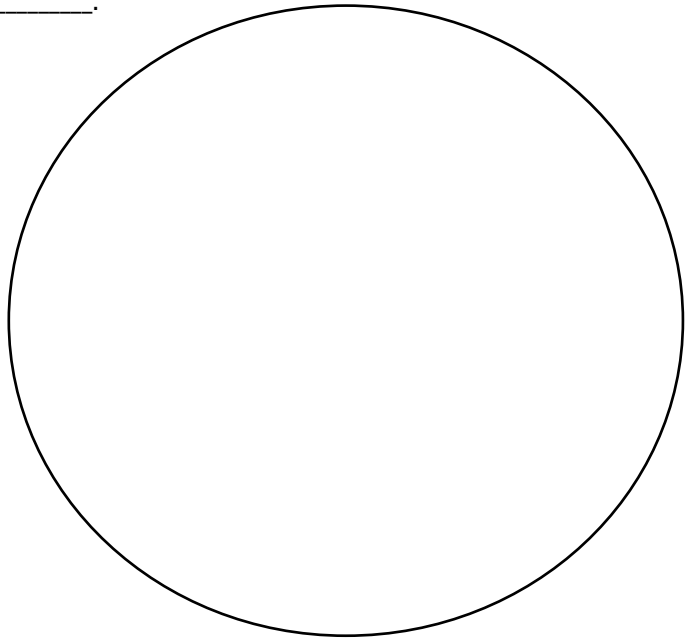




Metaphase I

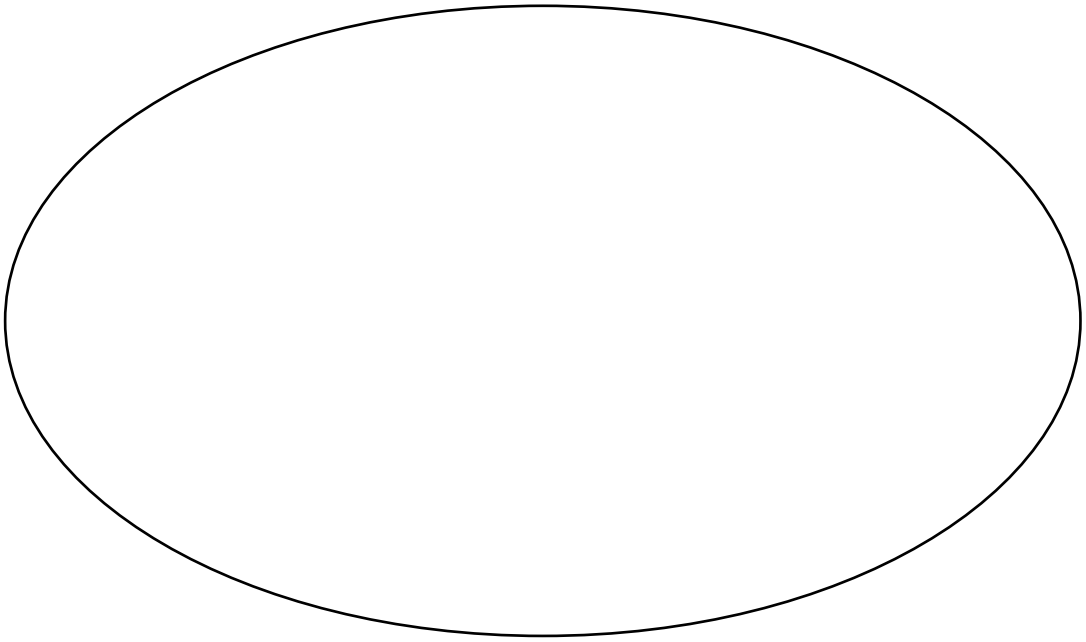
-Homologous chromosome line up _____

-Spindle fibers attach to the _____.



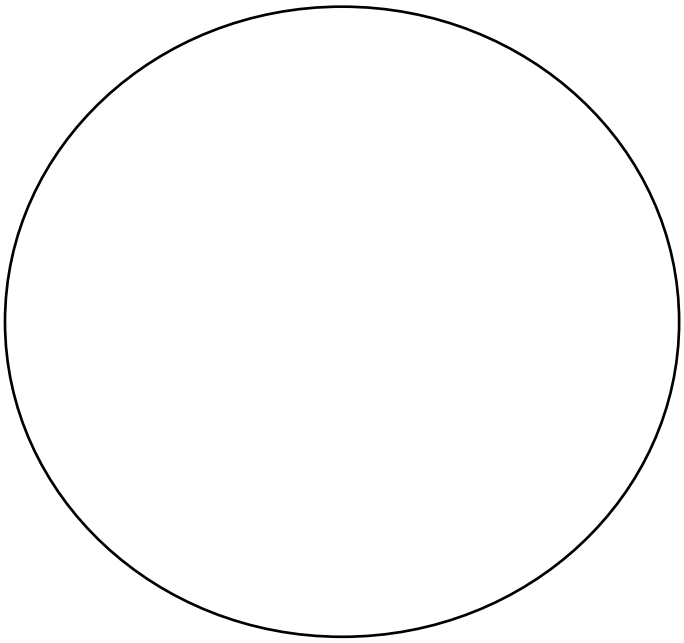
Anaphase I

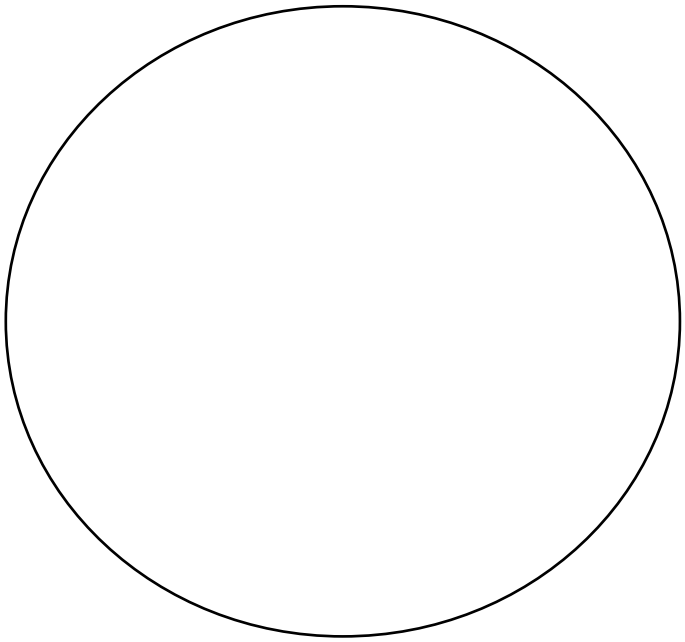
-_____ chromosomes are separated



Telophase I/Cytokinesis I

-Each new cell will have _____ of the chromosomes but _____ amounts of DNA. Each of these chromosomes are _____.

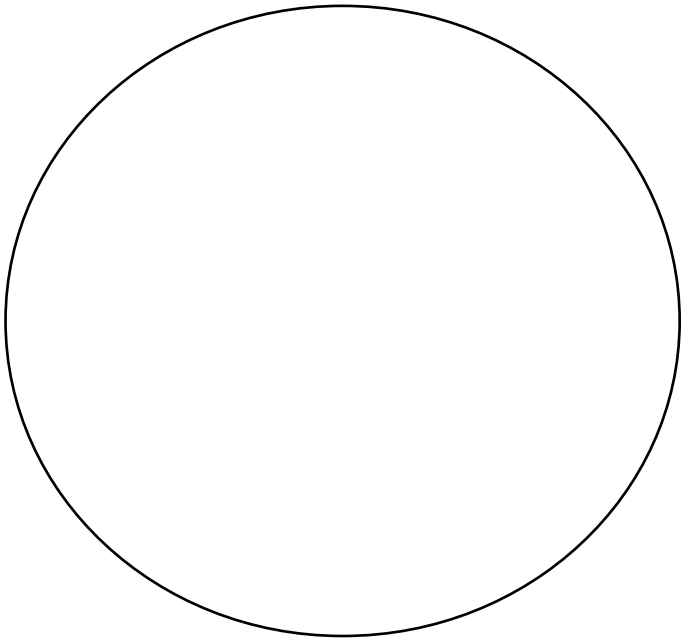


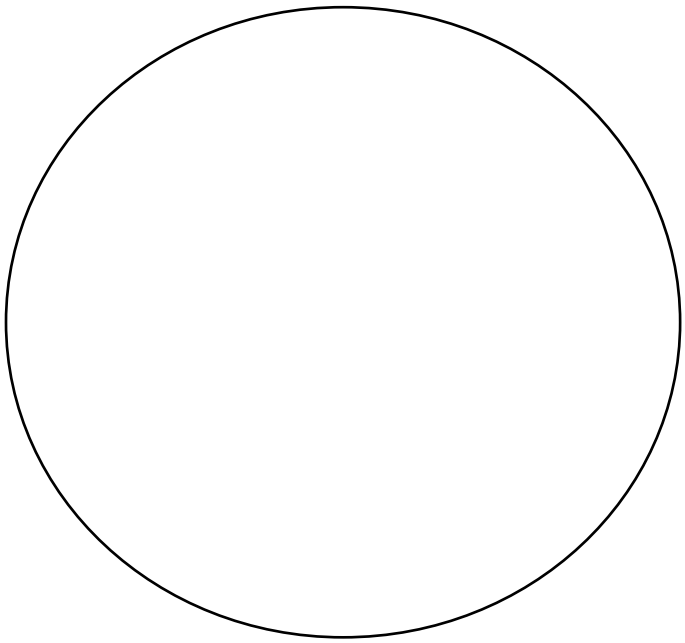


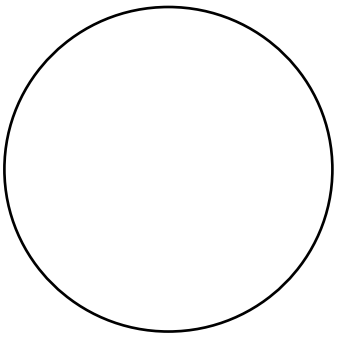
Meiosis II

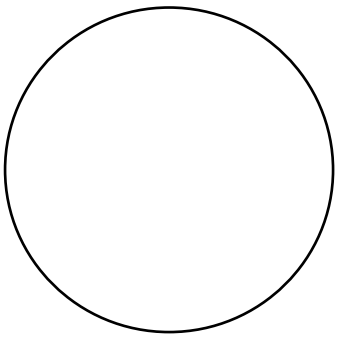
-Each double stranded chromosome will line up in the _____ of the cell.

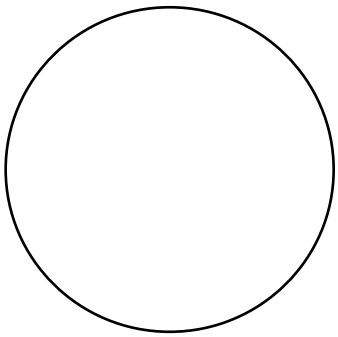
-_____ chromatids will get separated and each new cell will have _____ of the original DNA and are _____ chromosomes.

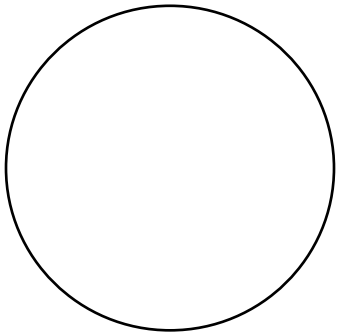












Errors in Meiosis

If sister chromatids do not separate correctly they will either have too many or not enough chromosomes. This is called _____