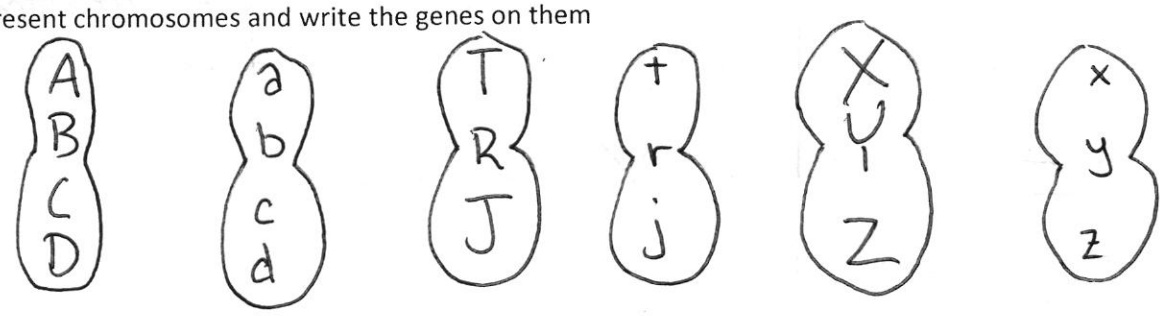
Summary Questions: Name _____

1- Write the GENES of your chromosomes in the space below. Whatever order they are found on the chromosome should be the order of the genes written below. Make sure and number the chromosomes. If you want use large X's to represent chromosomes and write the genes on them

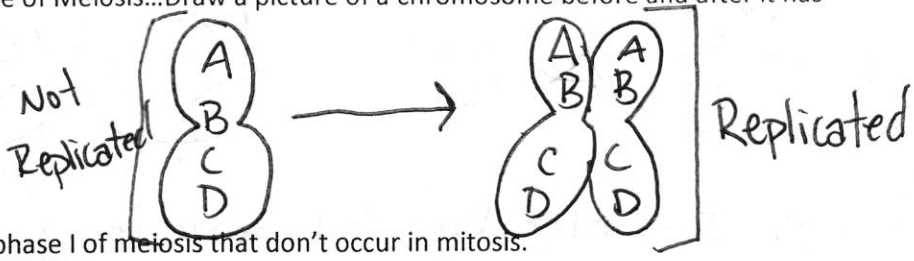


2- What is the DIPLOID number of the cell you created?

2n = 6 (Count the chromosomes above)

3- Explain the function of Replication in the S phase of Meiosis...Draw a picture of a chromosome before and after it has been replicated

Doubles the DNA.
Makes identical copies



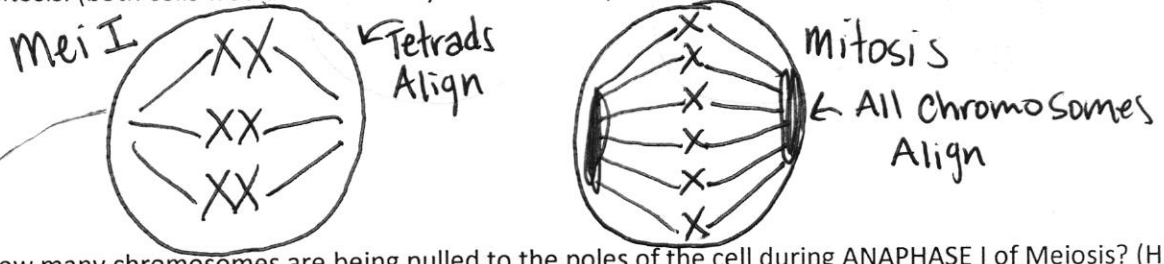
4- What are two BIG differences that occur in Prophase I of meiosis that don't occur in mitosis.

Homologous chromosomes form a tetrad... 2 chromo. w/ 4 chromatids

5- What is the purpose of Crossing Over?

Exchanges segments of DNA from Non-Sister chromatids between Homologous chromosomes

6- How is your cell that you created to represent Metaphase I different from a cell that would be created in Metaphase of mitosis. (both cells would come from your 2n = 6 cell) You can answer this with a picture.



7- How many chromosomes are being pulled to the poles of the cell during ANAPHASE I of Meiosis? (Hint: replicated chromosomes are considered single chromosomes with 2 chromatids)

3 chromosomes each Way... still replicated

8- How are the chromosomes different in ANAPHASE I that are being pulled to the poles of the cell versus the chromosomes that are pulled toward the poles in ANAPHASE of mitosis.

Anaphase I

Homologous chromosomes separated from Tetrad Still Replicated

Anaphase Mitosis

sister chromatids separated... Every Replicated Chromosome splits.

9- Explain why the cells that are being created after TELOPHASE I and during CYTOKINESIS are Haploid

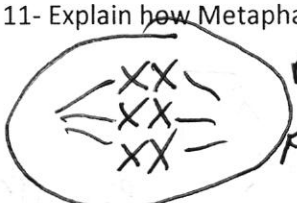
They have HALF as much DNA/Chromosomes.

Cell starts w/ 6... Ends w/ 3

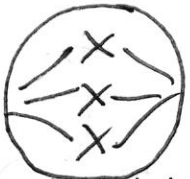
10- Why do the chromosomes not Double before MEIOSIS II

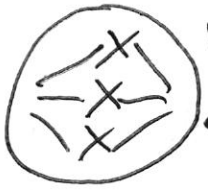
They are still Replicated after meiosis I

11- Explain how Metaphase II of Meiosis is different than Metaphase I of Meiosis



Met I ← tetrads Align





Met II ← Single Replicated chromosomes Align

12- Explain how Anaphase II is different than Anaphase I of Meiosis.

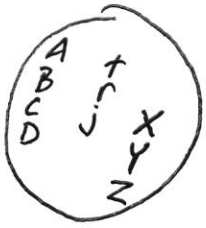
Ana II - sister chromatids separate

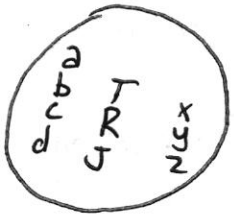
Ana I - Tetrads separate

13- a. How many Cells are created at the end of Telophase II and Cytokinesis II?

4 haploid cells.

b. Draw the Gametes created and Write the Genes that are being Passed on to the offspring. (yours might be different)





14- How many of the Gametes are Identical to each other? Explain!

... None... Nunca

15- What two processes led to the creation of Gametes that are not Identical (variation)?

Crossing Over & Independent Assortment

↑ Prophase I

↑ Metaphase I