1. Define meiosis.

2. What are the two categories of chromosomes?

3. Name the 2 sex chromosomes and tell what combination determines male and a female organism.

4. What are autosomes?

5. How many autosomes are in human somatic cells?

6. What is the main difference between diploid and haploid cells?

7. What type of cells in humans would be diploid? Haploid?

8. How are diploid cells abbreviated? Haploid?

9. When a haploid _________ cell combines with a haploid ________ cell, the new cell will be called a ____________.

10. What effect does meiosis have on the chromosome number of a cell?

11. How do the cells produced by meiosis reestablish a complete set of chromosomes?

12. What type of cell undergoes meiosis?

13. Name the two human gametes and tell their chromosome number.

14. What is the chromosome number for humans?

15. How many times do cells divide during meiosis?

16. What are the stages of meiosis? Be able to describe what occurs during each stage.

17. How many cells form at the end of Meiosis II? How many chromosomes do they contain?

18. If a cell has a diploid number of 86, the haploid number would be _____.


20. List reasons why a karyotype may be created.

21. Sex cells are called ________________.

22. The process of making male sex cells is ________________ and the process of making female sex cells is ________________.

23. An immature sperm ________________
24. An immature egg (ovum) ______________________

25. Crossing over occurs during which phase(s) of meiosis?

26. Meiosis results in _____ haploid cells.

27. A cell formed from unequal division of the cytoplasm; usually disintegrates and dies _______________ ________________

**Mutations**

1. Define:
   - Duplication-
   - Inversion-
   - Deletion-
   - Translocation-

2. When only one chromosome of a pair is given, this condition is ________________ and when one extra is given, it is ________________.

3. Is one type (point vs. frameshift) of mutation more dangerous than another? Justify your answer.

4. How do duplications affect the size of the chromosome? Deletions?

*Please note: This is not a comprehensive review. You need to study all material discussed in class.*
Karyotypes, Mutations, and Meiosis Word Search

Complete the following statements. Then locate the words in the puzzle below.

1. The ordered events of mitosis and meiosis include __________, prophase, __________, anaphase, and __________.

2. The fertilized egg that results when a sperm and an egg unite is called a(n) ____________.

3. Sex cells, __________ and __________, are called ________________.

4. Chromosomes become attached to the __________ fibers during both mitosis and meiosis.

5. A pair of double stranded chromosomes form a __________ (group of 4 chromatids) during synapsis in prophase.

6. The two chromosomes of a pair that carry genetic information for the same traits are called ______________ chromosomes.

7. The process of ___________ is when DNA replication takes place during the cell cycle.

8. The __________ number is the total number of chromosomes per cell.

9. A sister ______________ is the individual strand of a double-stranded chromosome.

10. The ______________ is the point of attachment of two sister chromatids.

11. The process of ___________ __________, which occurs during Prophase I, increases genetic diversity by exchanging chromosome segments.

12. A picture of chromosomes in a cell is a _________________.

13. An immature sperm is a ________________ while an immature ovum is an ootid.

14. The process of producing female sex cells is _________________.

15. When three copies of a chromosome are present, this is referred to as _________________.

E V J A X T Z L I T I O M A Y W Q U D Z A F N B P N M T H
V L Z V M S T A S C O V T O S C Y L B F R L K V C G B E G C
O T F W H I T E L O P H A S E N A N X Y I Q V W D L N R D
G Y H R J Y M W N I N T E R P H A S E O D T R V D X W H F
N H I M E D B T G L P V I L Z V F R B P T H R U N K S Q D Y
S O W Q U M V S U O C J F C V N B E Y O P Y P J Q V F E L D
O G X B M C D G J U D A X S J E B T N I H D Q I F Q E O M B
R E O O C D S Z M L V S D M C S S P E R M A T I D T G B U
C S B D U C P G Q I X S F O Y N U V H S E F M J U T E Y S J
A A S I S E N E G O O O R D G F O O F Y P D F Q I Q M Z Z Y
Z H G P B F F E C Z O T A L L I G F M Q H I Q A V V A T X F
N P G K L X Y C I O N R E X S G O W X Y E I U J U M G R W W
L A D I O L P I D E T B S B W D L U H G C R E A S C H I U J
S T D J P N I D C E D H C Y U K O W R V V H P P I O Q S I D
Q E B C O D M L T C E T Q P Q M S I S E H T N Y S R O Y O
G K N V S R D D Q L H E Z F U P H K J L P Q X H X I I Y Y O