Name_____Period_____

Biology
Miss Ulmer
Review for Meiosis Quiz

Objectives:

- Contrast the number of chromosomes in body cells and in gametes
- Summarize the events of meiosis
- Contrast meiosis and mitosis
- Describe how alleles from different genes can be inherited together

Study Questions:

1) A. What is the difference between Somatic cells and gametes? B. Give two examples of gametes.

2) A. What does haploid and diploid mean? B. If a cell is haploid and has *n* chromosomes, how many chromosomes would a diploid cell of the same organism have?

3) A. How many sets of chromosomes does a haploid cell have? B. How many does a diploid cell have? C. In which type of cell would you find homologous pairs of chromosomes?

4) During which phase of meiosis do tetrads form and crossing over occur?

5) Draw a picture of a homologous pair in the process of crossing over.

6) A. What is the definition of fertilization? B. During this process, what type of cell is made, haploid or diploid?

7) List these steps of meiosis in the order in which they occur: homologous pairs line up to form tetrads; crossing-over; homologous pairs independently assort

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8) In question 7, determine the phase of meiosis in which the step occurs.

9) Answer "Meiosis," "Mitosis," or "both" based on the description

A. Asexual reproduction
B. Produces haploid daughter cells
C. Begins with a diploid cell
D. Happens everywhere in your body (normal tissue growth and repair)
E. Produces four daughter cells
F. Involves crossing over
G. Goes through only one round of cytokinesis
H. Results in diploid daughter cells

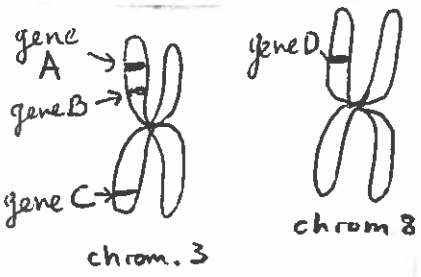
10) True or false: alleles tend to be inherited together if they are located on the same chromosome.

11) True or false: chromosomes, not genes, segregate independently

12) True or false: the farther apart genes are on a chromosome, the more likely is cross over

13) True or false: frequency of crossing-over lets geneticists construct maps of the locations of genes on chromosomes.

14) In the picture, it shows genes A, B, and C on chromosome 3. It shows gene D on chromosome 8. Answer the following questions about these genes.



A. Which gene is most likely to be linked with A? Why?

B. For which gene is it impossible to be linked with A? Why?

C. A is most likely to be crossed over with which gene? Why?