

Name _____

Biology

Miss Ulmer

Meiosis and the Cell Cycle Review

1. What type of cell undergoes meiosis? *Gamete cells* or *Somatic cells*
2. Define homologous chromosomes.
3. For each of the following state if the cell is haploid or diploid.
Sperm cell = Liver cell = Egg cell = Stomach cell =
4. If the diploid number in a liver cell of an organism is 52, how many chromosomes are there in the egg of this organism?
5. During meiosis, the chromosome number:
a) is doubled b) is reduced c) remains the same d) becomes diploid
6. Cells starting mitosis & meiosis begin with a (*haploid* or *diploid*) set of chromosomes.
7. How many times do cells divide during meiosis?
8. Draw a tetrad and show crossing over. During what process and in which phase do you first see this in?
9. How many cells form at the end of meiosis and how many chromosomes do they each contain?
10. A sperm cell is a (*gamete* or *zygote*), and is (*haploid* or *diploid*).

Name _____

11. Which of the following best describe the term "crossing over"?
- a.) An exchange of information between two homologous chromosomes
 - b.) A molecular interaction between two sister chromatids
 - c.) A molecular interaction between two non-sister chromatids
 - d.) A separation of two sister chromatids

12. Which letter in Figure 1 represents meiosis? *Why?*

13. Which letter in Figure 1 represents mitosis? *Why?*

14. Which letter in Figure 1 represents fertilization? *Why?*

16. What is the ultimate goal/purpose of mitosis?

17. What is the difference between a chromosome, sister chromatids, and homologous chromosomes? You may draw a picture as your answer.

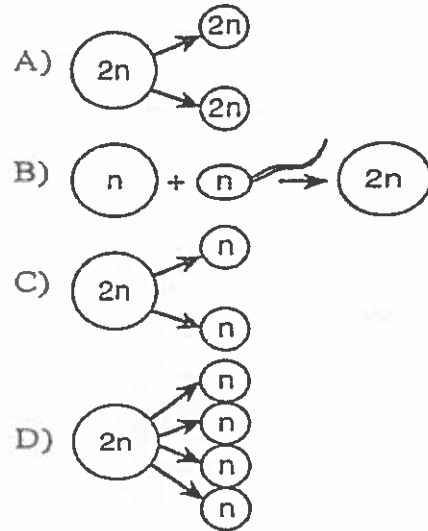
18. How are DNA and chromosomes related?

19. What is the difference between a haploid, diploid, and zygote?

20. Give 3 examples how meiosis differ from mitosis.

21. If the sperm cell of an organism contains 14 chromosomes, how many chromosomes are in a somatic cell of this organism?

Figure 1



Name _____

22. The two major divisions of the cell cycle are:

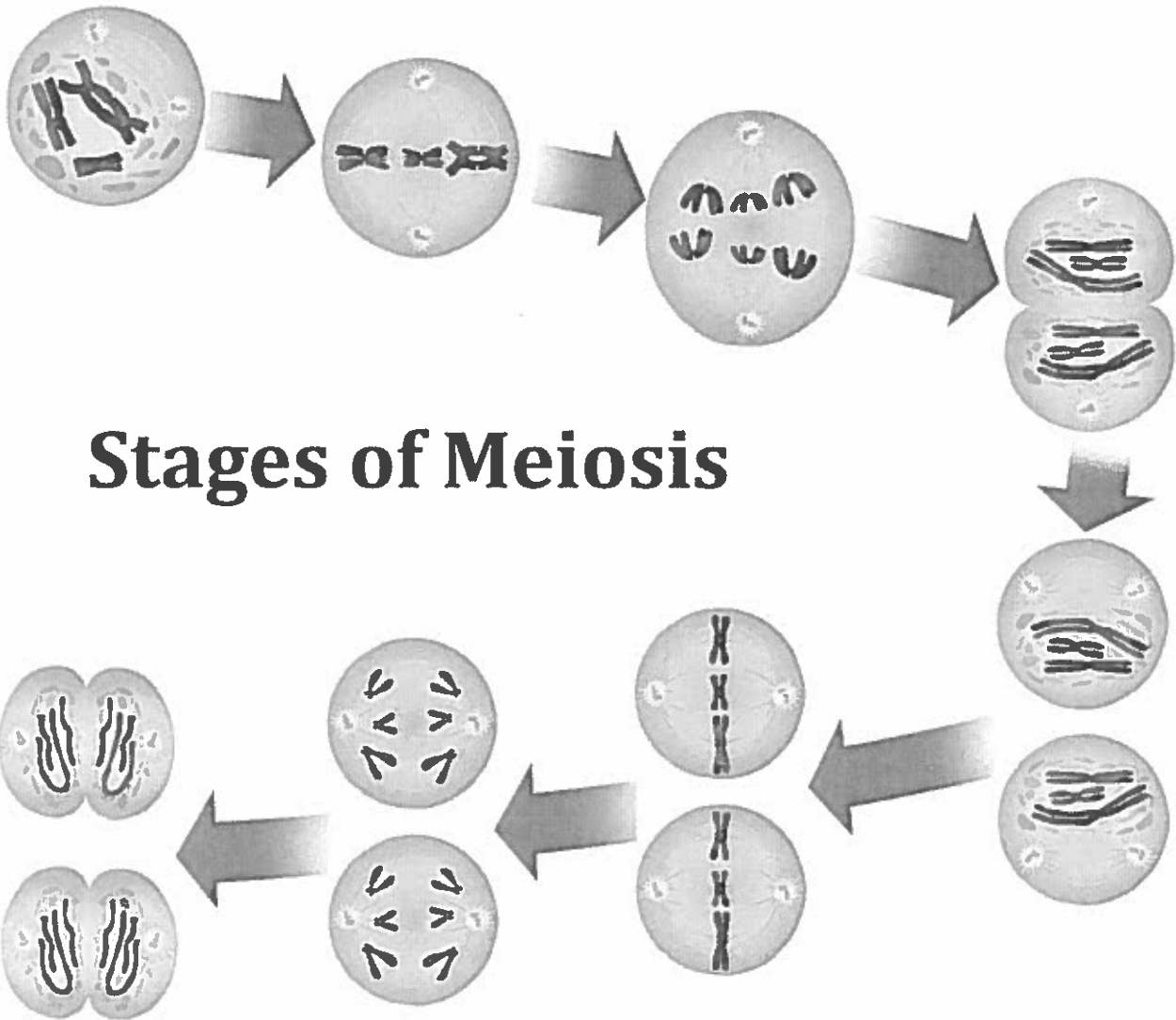
24. Describe what happens in each part of interphase:

G1-

S-

G2-

Label the following terms on the diagram below: Anaphase 1, Anaphase 2, interphase, Metaphase 1, Metaphase 2, Prophase 1, prophase 2, telophase 1, telophase 2, sister chromatids, centrioles, spindle fibers, nuclear membrane, cell membrane, chromosome



Stages of Meiosis