

RE 9.2 Question Set #3:

1. Compare the processes of mitosis and meiosis (Different/Similar).
2. Explain what happens to the chromosomes during cell division to produce both diploid and haploid cells. Use diagrams to illustrate your answer.
3. How are gametes different from zygotes? Compare the number of chromosomes in each.
4. If the number of chromosomes in a gamete of an organism is n , is the amount of DNA in the body cells of that organism equal to $1/2n$, n , or $2n$?
5. Organisms of the same species have the same number of chromosomes, but different species have different numbers of chromosomes. Complete the following table to compare these species:

Organism	# Chromosomes in a body cell	# Chromosomes in a cell after mitosis	# Chromosomes in a Gamete	# Chromosomes in a Zygote	# pairs of Chromosomes

6. Why do you think meiosis produces cells with only half the amount of DNA? How does this help with the formation of a new individual organism?