1. Starting with the two cells shown below, draw side-by-side diagrams of mitosis and meiosis.

**Mitosis** **Meiosis**

* 1. In the diagrams, label the following for mitosis and meiosis in the initial cell and the products: chromosome, centromere, chromotid
  2. For the diagrams on page 1, complete the following table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Haploid or diploid?** | **2n or n?**  **n = number of chromosomes sets** | **Chromosome number**  **How many sets of chromosomes?** | **Number of cells** |
| **Mitosis, initial cell** |  |  |  |  |
| **Meiosis, initial cell** |  |  |  |  |
| **Products mitosis** |  |  |  |  |
| **Products meiosis** |  |  |  |  |

1. It has been said that meiosis is mitosis done twice. Do you agree or disagree with this statement? Justify your answer.
2. Compare mitosis and meiosis on the similarities and differences chart shown below.

**Differences**

**Similarities**

1. How might Charles Darwin explain the substantial number of similarities between mitosis and meiosis?
   1. Why do both mitosis and meiosis persist today? Explain.