

Cell Division and Mitosis Worksheet

Exercise 3

Part 3c. The G1 cell on your mat board presently contains a total of _____ chromosomes, each of which is _____ stranded. There are _____ pairs of homologous chromosomes in the cell. Because chromosomes are in homologous pairs, G1 cells are _____.

Part 4. Place the four replicated, double stranded chromosomes (strings) on the cell labeled G2 on your mat board. The G2 cell contains a total of _____ chromosomes that represent _____ pairs of homologous chromosomes. Each chromosome in G2 consists of _____ strands called _____. Because chromosomes are present in _____ pairs in G2 cells, cells are still _____ or $2n$. Notice that replication did not change the number of _____.

Exercise 4

Part 1d. Draw a cell in prophase as it appears on the mat board and label the chromosomes, chromatids, and spindle fibers

Part 1e. Summary of prophase: During prophase _____ become shorter and thicker. The _____ and the _____ envelope disappear. _____ fibers, made of _____, form a football-shaped structure within the cell. Some microtubules attach to the _____ of the chromosomes. Because chromosomes are present in homologous pairs during prophase, the cell is _____ or _____n.

Part 2c. Draw a cell in metaphase as it appears on the mat board and label the chromosomes, chromatids, and spindle fibers.