|  |  |
| --- | --- |
| **MITOSIS—Occurs in all somatic cells (body cells) for growth and repair** | |
| PROPHASE | Description |
| **NAME:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Part I:** Draw the stages of mitosis below and include a description of each stage in the second column. You should start with four duplicated chromosomes and each duplicated chromosome should be a different color (Use green, blue, red and brown). Make sure also to label each cell as it is labeled on pages 186-187 in your book. | This drawing shows 4 duplicated chromosomes. For a total of \_\_\_\_\_ chromosomes  A real human cell would have \_\_\_ duplicated chromosomes. For a total of \_\_\_\_\_ chromosomes. |
| METAPHASE | Description |
|  |  |
| ANAPHASE | Description |
|  |  |
| TELOPHASE | Description |
|  |  |
| Cytokinesis (technically just after mitosis) | Description |
|  | Showing \_\_\_ sample duplicated chromosomes in each cell. With a total of \_\_\_\_\_\_\_ chromosomes  Real human cell would have \_\_\_ duplicated chromosomes in each cell. With a total of \_\_\_\_\_\_\_ chromosomes.  One cell becomes \_\_\_\_ cells. |
| How does the final number of chromosomes in each cell compared to the starting number of chromosomes in both cells? Explain why it is important for somatic cells to undergo mitosis. | |

**Part II:**

Draw the chromosomes in the cell as it undergoes **Mitosis**. Make sure to label each chromosome accordingly. At the end you should have two \_\_\_\_\_\_\_\_\_\_\_\_\_\_ daughter cells.

**A**

**B**

**b**

**a**

**A**

**B**

**b**

**a**

Prophase Metaphase Anaphase

Daughter Cells

Telophase

Explain why it is important to create two identical daughter cells.