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| **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 \_\_\_\_\_ chromosomesA 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 \_\_\_\_\_\_\_ chromosomesReal 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.