**Mitosis Study Guide**

1. How many chromosomes do human body cells have?

2. What happens if the spindle fibers do not work properly?

3. What would happen if cytokinesis did not occur?

4. What type of cells in your body reproduces using mitosis?

5. What is the purpose of mitosis in unicellular organisms? What is the purpose of mitosis in multicellular organisms?

6. What happens during mitosis? When does mitosis occur?

7. When the DNA in a cell is uncoiled and spread throughout the nucleus it is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

8. What is the biggest difference seen during mitosis in plant versus animal cells?

9. Cells spend most of their time in what phase? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. Why is DNA replication necessary? During which stage of the cell cycle does DNA replication occur?

11. If a parent cell begins with 14 chromosomes, as a result of mitosis there will be \_\_\_\_\_ daughter cells with \_\_\_\_\_\_ chromosomes each.

12. Label the following on the picture below: replicated chromosome (2 sister chromatids), unreplicated chromosome, centromere.

1. What type of reproduction is mitosis? What type of cell do you start with and end with?

**1**

**2**

**3**

**4**

**5**

1. Describe what is happening in each of the phases of the cell cycle.

 1.

 2.

 3.

 4.

 5.

1. Which cell is in metaphase? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. In cell 5, what is the structure labeled Y? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Which cell is not in a phase of mitosis? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What two main changes are taking place in cell 1? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Sequence the five diagrams in order from first to last. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6.  Label the steps of the cell cycle. Know what happens in each.

 1.

 2.

 3.

 4.

 5.

 6.

 7.

 8.

 9.