The Cell Cycle Review
Chapter 12

1. What is the purpose of cell division?
2. Describe the duplication and distribution of chromosomes during eukaryotic cell division.
3. Distinguish between interphase and mitotic phase.
4. Describe the appearance of chromosomes during mitosis.
5. A chicken has 78 chromosomes in its somatic cells.
    a) How many chromosomes did the chicken inherit from each parent?
    b) How many chromosomes will be in each somatic cell after mitosis?
    c) How many chromosomes are in each of the chicken's gametes?
    d) How many chromosomes will be in each somatic cell of the chicken's offspring?
6. Describe how the mitotic spindle separates chromosomes during mitosis.
7. Identify the stages of the cell cycle during which a chromosome consists of two identical chromatids.
8. Describe how cytokinesis in animal cells differs from cytokinesis in plant cells.
9. Describe how binary fission in prokaryotic cells differs from mitosis in eukaryotic cells.
10. Provide a reason for the importance of cell division being controlled.
11. Describe G_0 phase.
12. Explain the importance of checkpoints in the cell cycle.
13. Growth factors, density-dependent inhibition, and anchorage dependence contribute to the regulation of cell division. Explain how each one does so.
14. Describe cancer in terms of the control of the cell cycle.