Mitosis Quiz

Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. Which of the following happens when a cell divides?
   a. The cell’s volume increases.
   b. It becomes more difficult for the cell to get rid of wastes.
   c. Each daughter cell receives its own copy of the parent cell’s DNA.
   d. It becomes more difficult for the cell to get enough oxygen and nutrients.

2. The process by which a cell divides into two daughter cells is called
   a. cell division.
   b. metaphase.
   c. interphase.
   d. mitosis.

3. When during the cell cycle are chromosomes visible?
   a. only during interphase
   b. only when they are being replicated
   c. only during cell division
   d. only during the G1 phase

4. Which of the following is a correct statement about the events of the cell cycle?
   a. Little happens during the G1 and G2 phases.
   b. DNA replicates during cytokinesis.
   c. The M phase is usually the longest phase.
   d. Interphase consists of the G1, S, and G2 phases.

5. Cell division is represented in Figure 10–3 by the letter
   a. A.
   b. B.
   c. C.
   d. D.

Figure 10–3
6. The structure labeled A in Figure 10–5 is called the
   a. centromere.
   b. centriole.
   c. sister chromatid.
   d. spindle.

7. The structures labeled B in Figure 10–5 are called
   a. centromeres.
   b. centrioles.
   c. sister chromatids.
   d. spindles.

8. During which phase(s) of mitosis are structures like the one shown in Figure 10–5 visible?
   a. anaphase only
   b. prophase, metaphase, and anaphase
   c. metaphase only
   d. anaphase and interphase

9. During which phase of mitosis do the chromosomes line up along the middle of the dividing cell?
   a. prophase
   b. telophase
   c. metaphase
   d. anaphase

10. What is the role of the spindle fibers during mitosis?
    a. They help separate the chromosomes.
    b. They break down the nuclear membrane.
    c. They duplicate the DNA.
    d. They make the chromosomes visible.

11. One difference between cell division in plant cells and in animal cells is that plant cells have
    a. centrioles.
    b. centromeres.
    c. a cell plate.
    d. chromatin.

12. After normal mitotic division, how many chromosomes does each new daughter cell contain as compared to the parent cell?
    a. the same number
    b. twice as many
    c. half as many
    d. four times as many
13. The division of the cytoplasm of a eukaryotic cell is called
   a. mitosis  c. cytokinesis
   b. binary fission  d. cytoplasmic streaming

14. In eukaryotic cells, DNA is copied during a phase of the cell cycle called
   a. M phase  c. G1 phase
   b. S phase  d. G2 phase

15. In telophase of mitosis, the mitotic spindle breaks down and the chromatin uncoils. This is essentially the opposite of what happens in
   a. prophase  c. metaphase
   b. interphase  d. S phase