

**DIAGNOSTIC TEST**  
**MITOSIS AND MEIOSIS**

**Multiple Choice Questions**

1. The process of cell division which forms daughter cells having the same number of chromosomes as the parent cell is:  
A. meiosis  
B. mitosis  
C. fertilisation
2. The process of cell division which forms daughter cells having the half the number of chromosomes as the parent cell is:  
A. meiosis  
B. mitosis  
C. somatic cell formation
3. A body cell with a diploid number of chromosomes is said to be:  
A.  $n$   
B.  $2n$   
C. tetraploid
4. The number of chromosomes in all human gametes is:  
A. 23 pairs  
B. 46  
C. haploid
5. The number of chromosomes in human somatic cells is:  
A. 23 pairs  
B. 23  
C. haploid
6. The resting phase that is not part of cell division is called:  
A. rest phase  
B. telophase  
C. interphase
7. The correct of stages of mitosis is:  
A. anaphase, metaphase, interphase  
B. prophase, metaphase, anaphase, telophase  
C. prophase, telophase, metaphase, anaphase
8. The disappearance of the nuclear membrane is a sign of the stage called:  
A. prophase  
B. metaphase  
C. anaphase
9. The lining up of chromatids at the equator of the cell is a sign of:  
A. prophase  
B. metaphase  
C. anaphase
10. One difference between mitosis and meiosis is that:  
A. they are both forms of cell division  
B. mitosis makes gametes but meiosis doesn't  
C. there are 2 daughter cells in mitosis and 4 in meiosis

**True-False Questions**

11. Mitosis in animal cells is exactly the same as mitosis in plant cells.
12. In prophase, the chromatids are pulled to the poles of the cell.
13. Spermatogenesis forms 4 daughter cells called sperm.
14. Meiosis makes gametes in all organisms.
15. Oogenesis is the production of 1 egg and 3 polar bodies.

**Short Answer Questions**

16. Sketch a diagram showing mitosis of a parent cell with 4 chromosomes.
17. Sketch a diagram showing meiosis of a parent cell with 4 chromosomes.
18. The formation of a new human follows these processes – meiosis, fertilisation, mitosis. Explain.
19. Where in your body are meiosis and mitosis occurring right now?
20. What are crossing over and recombination?