Name: _____ Date: _____

2. What are the two major methods of cellular division in eukaryotic cells? 1
   A) meiosis and fission
   B) meiosis and cloning
   C) fission and cloning
   D) mitosis and cloning
   E) meiosis and mitosis

5. The planned process of cell suicide is called: 2
   A) apoptosis.
   B) mitosis.
   C) meiosis.
   D) metastasis.
   E) malignancy.

10. Cancer cells are different from other cells in that they have lost their "contact inhibition." "Contact inhibition" means: 1
   A) DNA replication in most cells stops when the double helix comes in contact with particular enzymes.
   B) most cells stop dividing when they have reached 50 cell divisions.
   C) DNA replication in most cells doesn't begin until the double helix comes in contact with particular enzymes.
   D) most cells stop dividing when they bump up against other cells or collections of cells.
   E) most cells don't begin to divide until they bump up against other cells or collections of cells.

13. In humans, the haploid number, *n* equals 2:
   A) 2*n*.
   B) 44.

C) 23.

D) 46.

E) *n*.

15. During meiosis, chromatin: 3
A) reduces the incidence of crossing over.

B) unwinds to allow synapsis between homologous pairs of chromatids.

C) condenses, becoming more tightly coiled.

D) binds to the metaphase plate, enabling chromosome division.

E) unwinds to allow tetrads to form.

17. The difference in sizes between male and female gametes results from two unequal divisions of _____ in female gamete development. 3
A) chromosomes

B) mitosis

C) DNA

D) nuclei

E) cytoplasm

20. Seventy to ninety percent of the genetic material in a gamete made in your body could be inherited from your mother. How could this be?
A) You receive many mitochondria, which have their own genome, from your mother, but not from your father.
B) Your maternal genes kill off your paternal genes at a greater rate than your paternal genes kill off your maternal genes.
C) You receive maternal genes through the placenta and through breast milk.

D) The X chromosome is substantially larger than the Y chromosome.

E) The above statement is incorrect. Fifty percent of the genetic material in your gametes comes from your father.

22. Some animals are primarily asexual in their reproduction, but have the ability to switch to sexual reproduction under certain conditions. Why might an animal that generally reproduces asexually make this switch to sexual reproduction?

A) to better compete in crowded situations

B) to increase its own likelihood of survival

C) to confuse its predators

D) to increase the genetic diversity of its offspring during periods of stress

E) None of the above is correct.

24. Which of the following statements is NOT correct of human sex chromosomes?

A) All diploid cells have both an X and a Y chromosome.

B) X and Y chromosomes differ in structure.

C) On average, half a man's sperm carry an X chromosome and half carry a Y.

D) Gametes produced by females have an X chromosome, but not a Y.

E) All diploid cells have at least one X chromosome.

25. In some species, sex is determined by environmental, rather than genetic, factors. This is true of:

A) birds.

B) humans.

C) turtles.

D) bees.