1. (1pt) Sheritha is short, has distinctive facial features, and has cognitive/behavioral problems such as mental retardation, hyperactivity, and irritability. After her mother is questioned about certain habits during pregnancy Sheritha is diagnosed as having:
   a. Down Syndrome
   b. Huntington’s
   c. Fetal Alcohol Syndrome
   d. Spina Bifida

2. (1pt) ________________ is a neural tube defect caused by the failure of the neural folds to close. The addition of ________________ dramatically decreases the chance of this.

3. (1pt) ________________ is a (circle one) dominant/recessive disease caused by a defect on chromosome 4. Symptoms don’t typically show up until middle age and may include cognitive decline and erratic movement.

4. (1pt) The process in which neurons in a developing nervous system make connections to other neurons in called__________________.

5. (1pt) The embryonic cell layer that forms the various parts of the nervous system is the:
   a. endoderm
   b. ectoderm
   c. mesoderm
   d. marginal layer

6. (1pt) The process in which cells travel to their location in the developing nervous system is called_______________. This process may be guided by glial cells or ________________.

   **Bonus (1pt) The term for a stem cell that can become any type of cell is ________________

7. (2pts) Stem Cells are cells which are capable of becoming multiple types of cells. Explain the 2 different methods by which stem cells may become differentiated (autonomous and induction):

8. (2pts) Place the following nervous system motifs in increasing order of complexity and explain one benefit for each increase in complexity: ganglia connected by nerve cords, a central nervous system inside a protective covering, and a nerve net.