

## The Nervous System II: Synaptic Potentials and Cellular Integration

1. Enhanced postsynaptic potentials are due to increased \_\_\_\_\_ entering the terminal as a result of \_\_\_\_\_.
2. Presynaptic inhibition is due to decreased \_\_\_\_\_ entering the terminal as a result of \_\_\_\_\_.
3. a. Synaptic potentials are also known as \_\_\_\_\_ potentials.  
b. They \_\_\_\_\_ as they travel away from the synapse.
4. a. Increasing the number of action potentials on an axon in a given period of time would cause \_\_\_\_\_ summation.  
b. Increasing the number of synapses from different neurons would cause \_\_\_\_\_ summation.
5. The magnitude of the EPSPs may be reduced (thus affecting their ability to generate and their action potential) by adding \_\_\_\_\_ potentials, or \_\_\_\_\_ s.
6. Inhibitory synapses would have the maximum effect if located where?  
\_\_\_\_\_
7. From the quiz, how many impulses did it take to cause an action potential:  
a. From the axon the furthest away from the cell body? \_\_\_\_\_  
b. From the axon located on the cell body? \_\_\_\_\_
8. Pulses from how many neurons were required to stimulate the postsynaptic neuron? \_\_\_\_\_
9. Compare action potentials and synaptic potentials:

|                                       | <b>Action Potential</b> | <b>Synaptic Potential</b> |
|---------------------------------------|-------------------------|---------------------------|
| Function                              |                         |                           |
| Depolarization/<br>hyperpolarizations |                         |                           |
| Magnitude                             |                         |                           |