1. Heavy exercise can cause serum K⁺ to increase dramatically, up to double the normal extracellular K⁺ (hyperkalemia). If the K⁺ were to double, the resting membrane potential (RMP) of nerve and muscle membranes will:
   
   A) stay the same
   B) depolarize to +70 mV
   C) depolarize by 20 - 30 mV
   D) hyperpolarize by 20-30 mV
   E) be determined by the resting Na⁺ permeability

2. If the RMP of a skeletal muscle cell depolarized from its normal value to a new steady level of -70 mV, what will be the effect on membrane excitability?
   
   A) more likely to fire an action potential (AP) in response to a nerve input
   B) less likely to fire an AP in response to nerve input
   C) in the relative refractory period
   D) in the absolute refractory period
   E) no change

3. If a nerve is poisoned with a toxin blocks that the voltage-dependent K⁺ channel, the nerve will:
   
   A) fail to generate an AP
   B) generate a normal AP
   C) generate an AP only if the stimulus is larger
   D) generate an AP that is shorter in duration than normal
   E) generate an AP that is longer in duration than normal

4. The conduction velocity of an action potential along a nerve can be decreased by:
   
   A) increasing the space constant of the nerve membrane
   B) shortening the nerve
   C) myelinating the nerve
   D) demyelinating the nerve
   E) increasing the number of Na⁺ channels along the nerve

5. During Phase 2 of the ventricular action potential:
   
   A) voltage-dependent Ca²⁺ channels start to open and depolarize the membrane
   B) Na⁺ channels open and depolarize the membrane
   C) voltage-dependent, delayed rectifier K⁺ channels close and repolarize the membrane
   D) transient outward K⁺ channels open and partially repolarize the membrane
   E) voltage-dependent Ca²⁺ channels close and depolarize the membrane