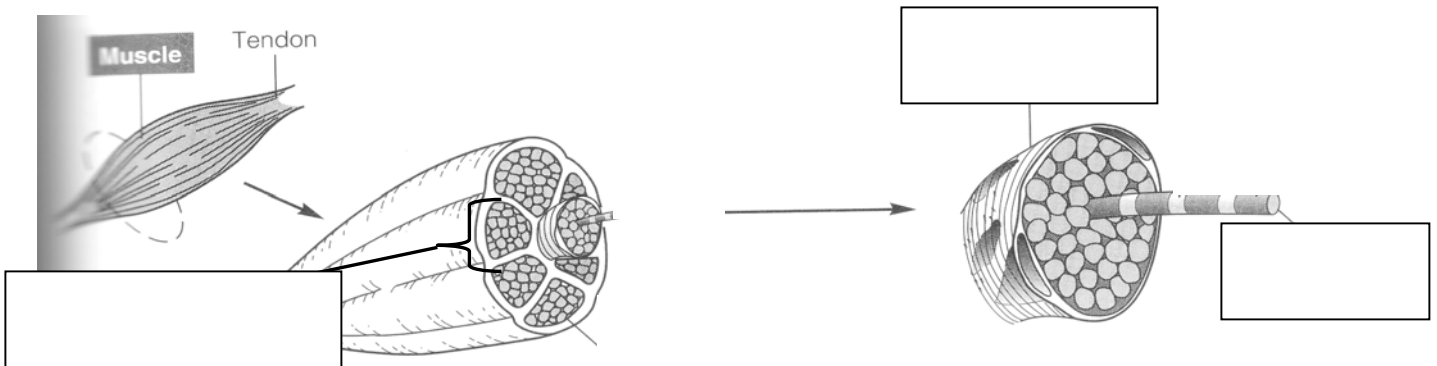


9) Name 4 cardiovascular responses to acute exercise (this is not asking about training effects, it is about the immediate changes that happen during exercise, compared to rest):

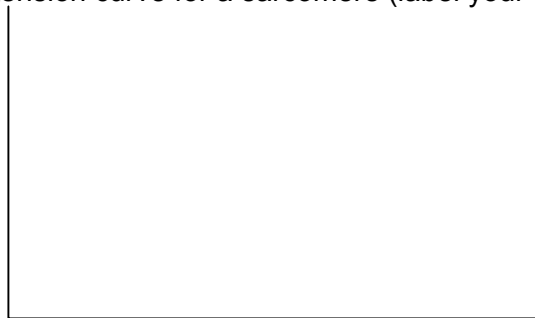
- 1.
- 2.
- 3.
- 4.

10) Compare and contrast the response of the cardiovascular system when performing strength exercises and dynamic exercises (exercises involving large muscle groups performing rhythmical contractions).

11) Label the diagram below with the following terms: **Fascicle**, **Fiber**, **Myofibril**



12) Draw a length/tension curve for a sarcomere (label your axes):



13) What do the following terms mean? 1) **twitch**, 2) **unfused summation** and 3) **tetanus** (fused summation)?

14) Draw the force – velocity relationship for a trained and un-trained muscle:



15) What is latency (w.r.t. muscle contraction)? How are the different muscle fiber types different in terms of latency?

16) What causes the conformational change that frees up the myosin binding sites on the actin filament? What does the freeing up of the myosin binding sites do?

17) What are the performance differences between muscle fibers that are parallel to the longitudinal axis of muscle and fibers that are at an angle (pinnate)?

18) What are the two types of summation of EPSP's?

19) What is a typical sodium concentration a) outside & b) inside a resting neuron?

a)

b)

20) Draw & label a neuron. Include the terms soma, dendrite, axon, myelin, and nodes of Ranvier.

21) T or F: GTO's (golgi tendon organs) are receptors that respond to length rather than tension.

22) T or F: muscle spindles respond to the amount of rapidity of stretch.

23) What are the six major areas of the brain?

1.

2.

3.

4.

5.

6.

24) Describe the process of excitation-contraction coupling.

25) What makes up the central nervous system? The peripheral?

Bonus Question: Explain α - γ coactivation (the " γ -loop")?