Neuroanatomy

Chapters 2, 5

1. What is the directional terminology regarding the spinal cord?
2. Where does the spinal cord begin?
3. Where does the spinal cord end at birth?
4. Where does the spinal cord end in the average adult?
5. What is the name for the tapered end of the spinal cord?
6. What is the number of spinal cord segments and spinal nerves?
7. What are the structures that function to anchor the spinal cord?
8. What are the layers of meninges around the spinal cord?
9. What are the meningeal spaces and their contents?
10. Where does the dural sac begin and end?
11. What are the contents of the dural sac?
12. What are the surface grooves found on the spinal cord?
13. What is the general organization of spinal cord white matter?
14. What is the organization of spinal cord gray matter? (horns and laminae)
15. What are the differences of the different spinal cord regions? (as seen in cross section)
16. Describe the lamina in the ventral horn that contains the lower motor neurons.
17. Describe the somatotopic localization of the lower motor neurons in the ventral horn.
18. Define myotome and dermatome.
19. Why are lower motor neurons designated as the ‘final common path’?
20. What are the signs and symptoms associated with lower motor neuron syndrome?
21. What are the components of a motor unit?
22. What is the difference between extrafusal and intrafusal muscle fibers?
23. What muscles do the gamma motor neurons innervate?

-How do they affect muscle spindle sensitivity?

1. What structures relay information to the CNS via Ia afferent fibers?
2. What structures relay information to the CNS via Ib afferent fibers?
3. What is the location of the cell bodies of the Ia and Ib neurons?
4. How does the myotatic reflex work?
5. What are the additional names for the myotatic reflex?
6. How does the inverse mytotatic reflex work and what is its function?
7. What are the additional names for the inverse myotatic reflex?
8. What are the functions of Renshaw cells?