Study Guide --- The Muscular System

1. What is the major function of the muscle? _________________________

2. What are the 3 types of muscle? Give a brief description of each. In the
description, use terms such as "Striated/non-striate", "voluntary/involuntary", and
tell where the muscle type is found in the body.

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<thead>
<tr>
<th>Type</th>
<th>Description</th>
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3. What is the function of a tendon? _______________________________

4. Describe and give an example of the following muscle movements:

<table>
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<tr>
<th>Description</th>
<th>Example</th>
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<td>Flexion</td>
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<tr>
<td>Extension</td>
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<tr>
<td>Rotation</td>
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5. Give one example of an isotonic muscle contraction.

6. Give one example of an isometric muscle contraction.

7. If you are alternating between contracting and relaxing your masseter muscle, what
are you doing? _________________________

8. A skeletal muscle has 2 points of attachment to bones. Name these 2 points and tell
which is movable and which is stationary?
   1).
   2).

9. Define
   *Prime Mover*
   *Antagonist*
10. Refer to the 5 Golden Rules of Skeletal Muscle Activity (Table 6.2 p. 198):
   Skeletal muscle can only ___________; they never ___________. During contraction, a skeletal muscle ___________ moves toward the ________________.

11. What is the name of the theory that describes the mechanism of a muscle contraction?

12. What is a sarcomere?

13. List the 7 steps of muscle contraction.

14. See the sarcomere below.
   a. Color and label.
      o thick filament
      o thin filament
      o z line
   b. Label
      Actin
      Tropomyosin
      Troponin
      myosin

15. Myofibrils are made of alternating bundles of _______________ and ______________ filaments.
16. The filaments between two z lines are collectively known as the _______________.
17. The thin filaments are connected at one end to the _________________.
18. The thick filaments are joined to each other at their _________________.
19. The thin filament is made up of two chains of the globular protein _______________ and two chains of alternating proteins called _______________ and _______________.
20. The thick filament is made up of a bundle of the protein _________________.
21. When the muscle contracts, the sarcomere becomes (longer/shorter).
22. The dark band is the ______ band; while the light band is the ________ band.
23. The ___________ divides the I band; while the _________ divides the A band.
24. Be able to label the muscle diagram (see slide 5 on powerpoint)