BONES

1. Which end of the clavicle is on the lateral side (acromial or sternal)?

2. Describe the difference in the appearance of the acromial and sternal ends of the clavicle:

3. Is the clavicle in your hand a right or left? How can you tell?

4. Is the spine of the scapula on its dorsal or ventral surface?
   a. Is the spine closer to the superior or inferior edge of the scapula?

5. Is the glenoid cavity located on the medial or lateral side of the scapula?
   a. What bone articulates with the glenoid cavity?

6. Does the coracoid process face anteriorly or posteriorly?

7. Is the scapula in your hand a right or left? How can you tell?

8. Which of these does not touch the spine of the scapula: Subscapular fossa, infraspinous fossa, supraspinous fossa?
   a. Just from the names, how can you tell?
   b. Which of the three is largest?
   c. Which faces ventrally (toward the ribs)?

9. What feature should you look for to tell if you are looking at the lateral or medial border?

10. How is the proximal end of the humerus similar to the proximal end of the femur?
    a. How are they different in terms of naming?
    b. How are they different in terms of anatomy?

11. (Looking ahead) What three muscles insert on the intertubercular sulcus?
    a. Why is a good mnemonic for these three muscles: “PLT”?
    b. What function do these three “PLT” muscles have in common?
12. Would you expect more muscles to insert on the greater tubercle or the lesser tubercle? Why?

13. How can you tell the medial side from the lateral side of the humerus?

14. While hard to find, is the deltoid tuberosity located on the lateral or medial sided of the humeral shaft?

15. Of these distal humeral features: capitulum, trochlea, olecranon fossa, radial fossa, & coronoid fossa
   a. Which four are visible on the anterior side?
   b. Which two are visible on the posterior side?

16. Other than it is found on the medial side, what differentiates the medial epicondyle from the lateral epicondyle?
   a. Can you palpate (feel) each of these epicondyles on your own arm?

17. What feature most clearly distinguishes the ulna?
   a. Is that feature at the proximal or distal end?

18. What feature most clearly distinguishes the radius?
   a. Is that feature at the proximal or distal end?

19. What two specific features (not the whole bone) does the head of the radius articulate with?

20. When is the head of the radius in (or closest to) the radial fossa: during elbow extension or elbow flexion?

21. When is the olecranon process in (or closest to) the olecranon fossa: during elbow extension or elbow flexion?

22. When is the coronoid process in (or closest to) the coronoid fossa: during elbow extension or elbow flexion?

23. Which portion of the humerus articulates with the trochlear notch?

24. Is the radial notch on the proximal or distal end of the ulna?
   a. Is the radial notch on the lateral or medial side? Why?

25. What do you think the purpose of the radial tuberosity is?

26. Where is the styloid process of the radius found: proximal or distal end?
   a. Can you palpate it on your own arm?
27. What bone is the ulnar notch found on?
   a. Proximal or distal end?
   b. Medial or lateral side?

28. Is the styloid process of the ulna closer to the thumb or the pinkie?

29. How are the bones of the hand similar to the bones of the feet?
   a. How are they different (in terms of naming)?
   b. How are they different (in terms of anatomy)?

**Muscles of the Shoulder**

30. Why are the rotator cuff muscles called “cuff”?

31. Identify the four rotator cuff muscles:
   - Supraspinatus, infraspinatus, subscapularis, teres minor
     a. How do their names help you identify the origin of three of these muscles?
     b. Three of these muscles insert on which bone feature?
     c. Where does the other insert?

32. What is the insertion of teres major?
   a. What other two muscles share this insertion?
   b. What is an action of all three of these muscles?

33. The rhomboids (major & minor) and serratus anterior all insert where?
   a. What is the action of each muscle?
   b. How do you explain the difference in action if all have the same insertion?

34. Why is serratus anterior called “serratus”?

35. Explain why the trapezius has can cause so many different movements of the scapula.
Use the diagrams below to answer the following questions (#36-39)

36. Which of these (A-D) shows flexion of the shoulder?
   a. Which muscle is primarily responsible for shoulder flexion?

37. Which of these (A-D) shows abduction of the shoulder?
   a. Which muscle is primarily responsible for this action?

38. Which of these (A-D) shows extension of the shoulder?

39. What action is shown in A?
   a. What four muscles contribute to this action?

40. Describe how pectoralis minor is different from pectoralis major in terms of:
   a. Size:
   b. Location:
   c. Insertion:
   d. Action:

**Muscles of the Arm**

41. The root word “brachii” is found in many muscles. What do all of these “-brachi-” muscles have in common?

42. Are the triceps brachii muscles found on the anterior or posterior side of the arm?
43. Why is anatomical position important when naming the lateral and medial heads of triceps brachii?

44. Why is the long head of triceps brachii “long”?
   a. What muscles does it pass between on its proximal end?

45. All three heads of the triceps brachii insert where?
   a. All have what action?

46. Which is more superficial: biceps brachii or brachialis?
   a. Both muscles have what action?

47. Can you see brachialis even without removing biceps brachii?

48. Knowing its function, which bone(s) would you expect the brachialis to insert on?
   a. Would its insertion be more like to be on the anterior or posterior side of the forearm? Why?

49. Describe how the name of coracobrachialis tells you its specific origin and insertion.

50. Describe the elbow actions shown in this figure:
   A: 
   B: 
**Muscles of the Forearm & Hand**

51. Is the cubital fossa found on the anterior or posterior side of the arm?
   a. What common medical procedures use the cubital fossa?
   b. The tendon of which muscle can be palpated in the cubital fossa?
   c. What muscle is found just lateral to the cubital fossa?
   d. What muscle is found just medial to the cubital fossa?

52. Is the palm of the hand found on the anterior or posterior side?

53. Almost all the muscles on the palmar side of the forearm have what common function?

54. Almost all the muscles on the dorsal/posterior side of the forearm have what common function?

55. Which bone acts as a landmark along the medial side of the forearm?
   a. Is this bone on the pinky side or thumb side?

56. All muscles with “pollicis” in their name act on which body part?

57. All muscles with “digitorum” or “digitii” in their name act on which body parts?

58. All muscles with “carpi” in their name act on which body part?
   a. What bones have a similar name?

59. Muscles originating from the medial epicondyle have what function in common?
   a. Based on that action, are these muscles found on the anterior or posterior side of the forearm?

60. Muscles originating from the lateral epicondyle have what function in common?
   a. Based on that action, are these muscles found on the anterior or posterior side of the forearm?

61. What is the primary difference between extensor carpi radialis longus and extensor carpi radialis brevis?

62. What two muscles contribute to ulnar deviation?
   a. Would another name for ulnar deviation be wrist adduction or wrist abduction?

63. Is flexor digitorum superficialis the most superficial muscle of the forearm?
   a. Why is called superficialis?

64. The only muscle on the anterior side of the forearm that inserts on the thumb is the:
65. Is the pronator quadratus found at the proximal or distal end of the forearm?

66. What two muscles contribute to supination?

Use these figures to answer the following questions (#67-74):

67. Which of the above (A-F) shows ulnar deviation?

68. Which of the above (A-F) shows supination?

69. Which of the above (A-F) shows wrist flexion?

70. Which of the above (A-F) shows pronation?

71. Which of the above (A-F) shows wrist extension?

72. Which of the above (A-F) shows radial deviation?

73. Most of the muscles that accomplish action C originate from which bony feature?

74. Most of the muscles that accomplish action D originate from which bony feature?

75. Briefly describe where the abductor pollicis longus is located compared to extensor digitorum and extensor carpi radialis brevis.

76. Put these four muscles in order from lateral to medial: abductor pollicis longus, extensor indicis, extensor pollicis longus, extensor pollicis brevis

   a. Which two of these muscles can be seen without removing superficial muscles?

77. The tendon of which muscle passes superficial to the flexor retinaculum?

78. Why are the thenar group and abductor digiti minimi called ‘intrinsic muscles’?

   a. What is an example of an extrinsic muscle?

79. In anatomical position, does abductor digiti minimi move the pinky toward the midline of the body or away from it?

   a. So why is it called ‘abductor’ digiti minimi?